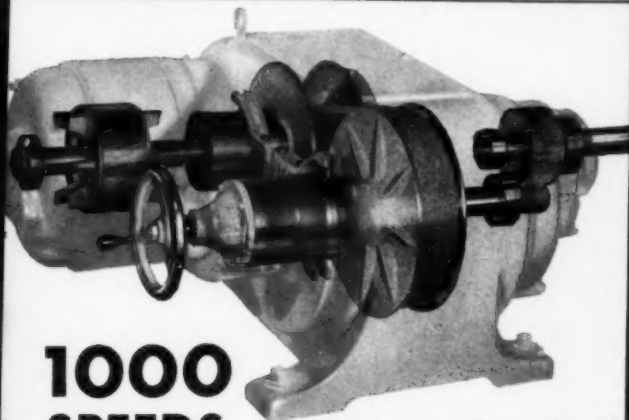


# Hitchcock's Machine Tool Blue Book

OCTOBER, 1934

TWENTY-NINTH YEAR



## 1000 SPEEDS —at the turn of a wheel U. S. VARIDRIVE MOTOR with Synchragear

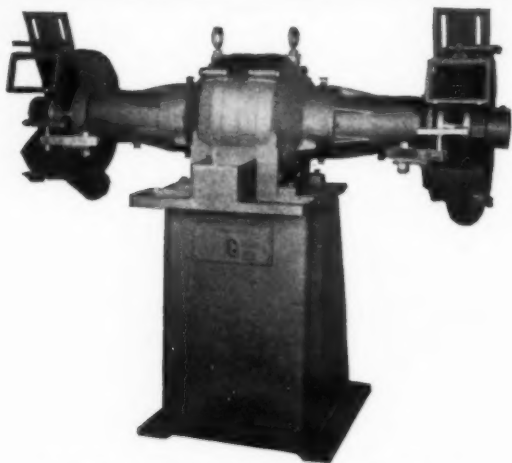
The new U. S. Varidrive motor offers any and all speeds over a wide range. It combines in an integral compact unit the simplest mechanism for replacing and performing the functions of an electric motor, intermediate couplings and transmissions, variable speed device and geared speed reducer.

**MICRO-SPEED CONTROL—1 r. p. m. to 10,000 r. p. m.**

*Send for new descriptive bulletin.*

**U. S. ELECTRICAL MFG. CO., 1522 So. Western Ave., Chicago, Ill**

**PUBLISHED AT 508 So. DEARBORN ST. CHICAGO**



7½ H. P.—4 Bearing Grinder, for 18"x2" Wheels.

## Grinders and Buffers

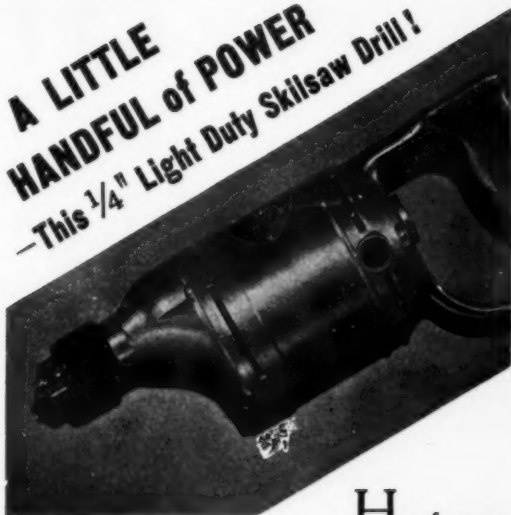
We offer the most complete listing of bench and pedestal designs from ½ to 20 H. P. now available, allowing selection of design best suited to your operating requirements.

Outline your specifications and write for recommendations.

*Details Submitted Promptly*

**THE PRODUCTION EQUIPMENT CO.**  
5213 Chester Ave., CLEVELAND, OHIO

**A LITTLE  
HANDFUL of POWER**  
—This  $\frac{1}{4}$ " Light Duty Skilsaw Drill!



**H**as features of construction, power, accuracy and smoothness you ordinarily would expect in much heavier drills—yet is priced so low it's truly amazing. Heavy power motor. Die cast Alloy Body. Motor has high grade Ball and Amplex bearings; spindle has Needle Roller and Ball Thrust Bearings. Weighs only  $4\frac{1}{4}$  lbs. and is beautifully balanced. *See it drill*—ask your distributor or write for our catalog!

SKILSAW INC., 3304 Elston Ave., CHICAGO

**SKILSAW DRILLS**

MADE IN EIGHT POWERFUL MODELS

# ACCURATE

*because*

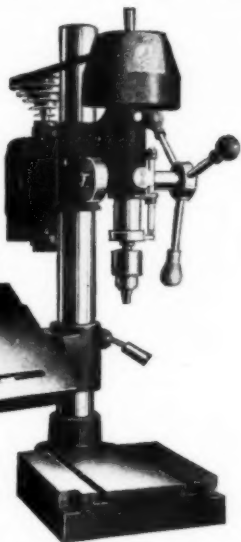
**Precision  
-built to  
close limits**

You'll say when you see a Buffalo 15-inch Production Drill that it's too high-priced for our trade—but you'll be wrong! This husky, well-designed drill—new from spindle to base—sells at a price which competes with many inferior tools now on the market.

It's accurate to an extreme—with a long-life, built-in accuracy—it's rigid because of the extra heavy construction. Head equipped with double row ball bearings at top of spindle as well as two additional sets, thus assuring extreme accuracy, rigidity and smoothness of operation. Runs smoothly at speeds to 10,000 r.p.m.

## **Floor and Bench Types—**

described in bulletin 2951. Write for this and prices now if you are interested in real VALUE.



## **Buffalo Forge Company**

**161 Mortimer Street,**

**Buffalo, N. Y.**

**In Canada: Canadian Blower & Forge Co., Ltd., Kitchener, Ont.**

***"Buffalo"***

**15-Inch  
Heavy-Duty  
Production Drills**

# Hitchcock's Machine Tool Blue Book

**Selected  
Circulation**

**20,000  
Monthly**

OCTOBER, 1934

TWENTY-NINTH YEAR

## How's Business ?

If there is not the desired pick-up in business, the fear of what may happen in the future is one of the greatest deterrent causes.

But if we look squarely at some of the significant trends of the past year, we might take a more encouraging view of what the future has in store.

According to "Business Week", labor's pay is somewhat better than last year; farm income is 20% greater—allowing 10% increase in the cost of things the farmer buys; retailers' shelves are bare; the Treasury policy looks orthodox; the banks can take care of any imaginable expansion, and the fundamental forces working for recovery still persist.

There can be no doubt that business will be much better this fall and winter if we can throw off our paralyzing pessimism, and not cross the bridge of what is going to happen until we get to it. During the last year the Administration has moved distinctly toward the right, and it has been more conservative than it talks.



*Published By*

**Hitchcock Publishing Co.**

**508 S. Dearborn St.,**

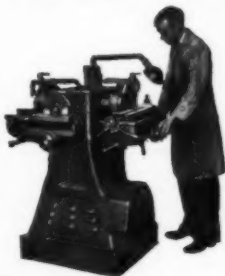
**Chicago, Ill.**

*Consult the Classified Finding Index for your requirements*

# SUNDSTRAND

## 3-Wheel Tool Grinder

A big, powerful, convenient machine for grinding and honing accurate, smooth, keen edges on cutting tools. Made in three types (a) for tungsten carbides (b) for high speed steels, (c) for tungsten carbides and steels. Speeds up tool-sharpening, improves cutting, lengthens tool life.



## BENCH CENTERS



### BALANCING TOOLS

Made in 5 sizes, with capacities from 800 lbs. to 24,000 lbs. Others for propellers, flywheels, pulleys, etc.

Accurate, compact, portable. Adjustable heads. Quick-acting spindle. Seven sizes.



These Sundstrand tools, like our Lathes and Milling Machines, cut costs and make work easier. " " " **INVESTIGATE!** Address our Dept. H for details.

**FOOTBURT**



## **A Single Spindle Footburt Sipp Sensitive Drill**

**Made in three  
sizes of single  
and multiple  
spindle models**

### **More holes with this machine**

**Why?** Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

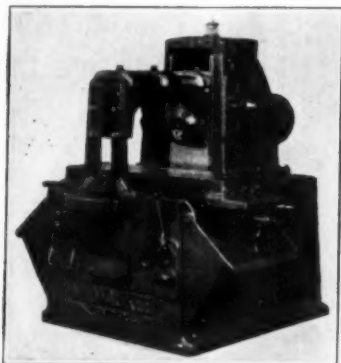
*Write for No. 650 Folders*

**The Foote-Burt Company, Cleveland, O.**

**FOOTBURT**

## New Automatic Milwaukee

Milwaukee Simplex and Duplex bed type milling machines, first introduced by Kearney & Trecker Corporation in 1930, are now provided with complete "two-way" automatic control. With this new feature, the table can be operated automatically or manually, or with a combination of both—whichever control is most convenient for the immediate job.



To obtain complete automatic control, a small, compact hydraulic operator, or control unit, has been designed and is incorporated in the saddle of the machine. This unit affords complete automatic control in a great variety of milling cycles, both one and two-way, with or without automatic spindle stop, depending on requirements.

The two plungers at the left and right of the tripping post control the operation of the unit for automatic reversal of the table and rapid return. At the selected point for automatic reversal, a dog depresses the plunger, slightly opening a valve which causes the plunger to jump ahead under hydraulic pressure. The entire operation of reversal is then made hydraulically, at a fast, constant rate, controlling the point of reversal to a fine degree of accuracy, regardless of load.

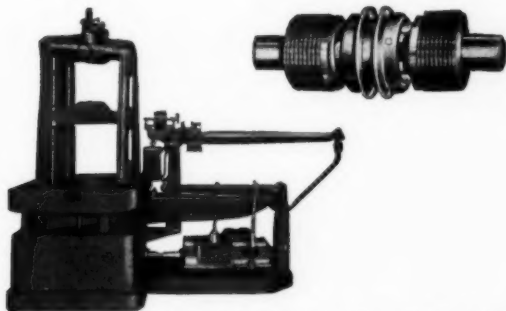
*(Continued on Page 10)*



# Riehle Bros. say "PULLMORE CLUTCHES *entirely satisfactory*"

Referring to Pullmore Clutches, Riehle Bros. Testing Machine Co., Philadelphia, writes "...will be worked in wherever possible, since it has proved entirely satisfactory in the gear box." Pullmore Clutches are highly efficient, reliable, durable; and easily adjusted. That is why they are entirely satisfactory in Riehle Testing Machines, and in a wide variety of other high grade machinery.

Pullmore Clutches are available in the double type shown below; and single type; for operation dry or in oil. Capacities range from 2 H. P. to 60 H. P. at 500 r. p. m.



*Write today for our catalog which contains valuable information on Pullmore Industrial Clutches and their installation.*

**ROCKFORD DRILLING MACHINE CO.,**  
410 Catherine St., **ROCKFORD, ILLINOIS**

Sold by **MORSE CHAIN CO.,** Ithaca, N. Y.  
*With offices in principal cities.*

*(Continued from Page 8)*

In previous practice, the clutch was withdrawn mechanically at the feed rate speed. This slow withdrawal of the clutch subjected it to severe strain, and thus greatly limited the accuracy of the point of reversal.

The automatic reverse is always followed by an instantaneous shift to rapid traverse. A simple interlock provides that the reverse clutch must be completely engaged before the engagement of rapid traverse, resulting in smooth, quiet operation and avoiding clashing of clutches at rapid traverse speed.

The table dogs and tripping mechanism are fully enclosed in a compartment provided in the front of the table. A sliding cover makes the dogs readily accessible and yet eliminates all dirt, chips, and coolant.

The new automatic system provides complete dog-controlled table movement of any milling cycle desired, with automatic stop. Rapid traverse, feed and direction are controlled by a single lever.

There are three feed changes, from  $1\frac{1}{2}$  to 20, 1 to 40 and  $2\frac{1}{2}$  to 100 inches per minute, with 18 changes in each range. The four speed ranges are 20 to 135, 40 to 270, 75 to 500 and 150 to 1,000 r. p. m., with 10 speed changes in each range.

## **Simplified Practice on Milling Cutters**

Simplified practice recommendation R36-34, milling cutters, is now available in printed form, and copies can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for \$0.05 each, according to the division of simplified practice, of the National Bureau of Standards.

This recommendation, which was first promulgated in 1925, is concerned with diameters, thicknesses, and other important dimensions of various types of milling cutters, such as plain milling, involute gear, screw slotting, keyseat, end mills for various purposes, and slitting saws, used on machine tools.

This revision represents a substantial decrease in the number of stock sizes and varieties of milling cutters shown in the original recommendation.

# KRW Hydraulic and Sensitive ARBOR PRESSES

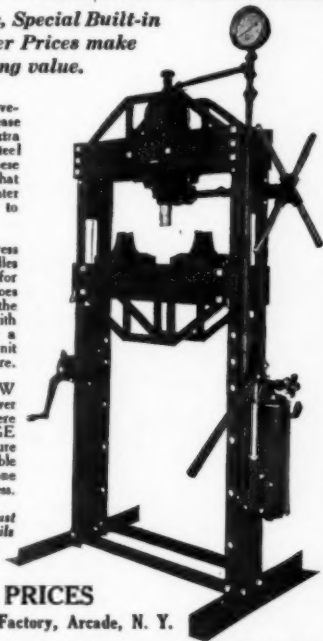
*New Improvements, Special Built-in Features and Lower Prices make them an outstanding value.*

**T**HE last word in convenience, efficiency and ease of operation. Built extra strong and well braced, with steel trusses electrically welded, these presses will withstand strains that would cause presses of lighter and inferior construction to buckle or collapse.

Hand wheel for sensitive press operations has sliding handles which pull out to the ends for increased leverage. Work does not have to be changed from the work table as is the case with other make presses having a separate sensitive press unit mounted on the side or elsewhere.

The importance of this KRW feature as a time and labor saver can be appreciated. Also there is **NO EXTRA CHARGE** for this important built-in feature on a KRW Press. Work table can be raised easily with one hand. A strictly one-man Press.

*Write for special circular, just off the press, giving full details and specifications of all KRW Arbor Presses.*



## PRICES

F. O. B. Factory, Arcade, N. Y.

- |   |          |
|---|----------|
| No. 37—35 ton Hydraulic and Sensitive Arbor Press (hand operated)     | \$128.00 |
| No. 37B—35 ton Hydraulic and Sensitive Arbor Press (air-oil operated) | 128.00   |
| No. 37E—50 ton Hydraulic and Sensitive Arbor Press (hand operated)    | 150.00   |
| (Can also be furnished in air-oil operated at same price)             |          |
| No. 37F—70 ton Hydraulic and Sensitive Arbor Press (hand oper. only)  | 275.00   |
| Gauge and fittings, \$15.00 extra on all presses.                     |          |

## K. R. WILSON

10-16 Lock Street, Buffalo, N. Y., U. S. A.

EXPORT DEPARTMENT

90 West St., New York, N. Y.

WEST COAST BRANCH

722 Mateo St., Los Angeles

## A New Haskins Tapping Machine



Three years ago the R. G. Haskins Co., 4636 Fulton Street, Chicago, announced a new tapping device which they say has revolutionized the tapping of small holes. This has led to the development of a second high-speed tapping equipment, here illustrated, in which a number of further improvements are incorporated.

The range of the Haskins No. 2 tapper overlaps that of the No. 1—from No. 10 taps up to and including 5/16" in steel, 3/8" in cast iron and 7/16" in brass and other non-ferrous metals.

A powerful 1/2 H. P. motor operating at 3450 R. P. M., supplies ample power to drive the largest tap within the range of the machine without overloading. Two change gears are furnished standard with each machine, giving speeds of 1100 and 1750 R. P. M. Reverse speed is double that of the tapping speed. Motors to operate on 50 or 60 cycle, single phase, as well as three phase and direct current, can be supplied.

The accurately ground and balanced tap spindle, complete with the double cone clutch, collet and cap, weighs only eighteen ounces. Due to the resulting lack of inertia, blind holes can be tapped without fear of breaking taps, even though the tap hits bottom. There is absolutely no float in the tap spindle, insuring the most accurately tapped holes. Reverse of the tap is automatic when the pressure on the foot pedal is released.

All Haskins tappers have a valuable feature which they claim is not to be found in any other tapper. The tap spindle is so designed that, by the removal of the collet chuck cap, a standard acorn die and holder can be installed, permitting external threading at the same high speeds as are used for tapping.

Production on this new machine is limited only by the ability of the operator to present the holes to the tap. In a large percentage of small tapped parts the most simple

*(Continued on Page 14)*



**SAVE! Do your light lathe work on this 9" ATLAS - \$79 Complete**



**ATLAS  
DRILL PRESSES**  
**\$13.95 to \$33.45**

Small, medium and big—for bench or floor. Quality-built tools with more and bigger bearings at prices below what you've had to pay up to now. Special construction prevents side-play in quill.



It's ready to run, this 9" Atlas Lathe. Self-contained countershaft, all belts *included* in the price. Set a motor on the bracket, plug into a light socket and it's ready to go. No outside shafting to place. No extras to buy.

A real lathe, running-tested to .001" accuracy before it's shipped. Six speeds with compound device that cuts out complicated back gears. Efficient V-belt drive. Automatic reversible feed; hollow headstock spindle; graduated compound rest. Cuts 4 to 72 threads.

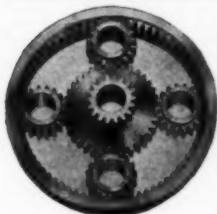
18" bed (also larger sizes up to 36") of heavily ribbed cast iron machined and ground on precision equipment. *Immediate shipment* for 2 weeks' trial with guarantee of money back if not satisfied.

*Write for Easy Terms and free illustrated catalog of the ATLAS FULLY EQUIPPED LATHE.*

Real metal working Lathes as low as \$40. Write for information.

**Atlas Press Company**

1850 N. Pitcher St., Kalamazoo, Mich., U. S. A.



**GEARS AND REDUCERS**

LET US QUOTE YOU

*Abart*

**Gear and Machine Co.**  
4832 W. 16th St., Cicero, Ill.

*(Continued from Page 12)*

and inexpensive fixtures can be used. The foot control leaves the operator's hands free to place the work. The operating speeds of this machine are so great and the tap goes in and out so quickly that very little effort is required to hold the part being tapped, resulting in the possibility of using light, inexpensive fixtures.

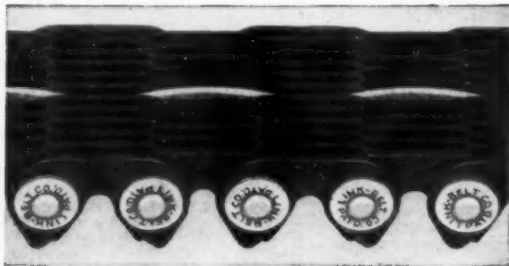
The R. G. Haskins Co. will furnish more complete information upon request.

### **Silverstreak Silent Chain Announced By Link-Belt**

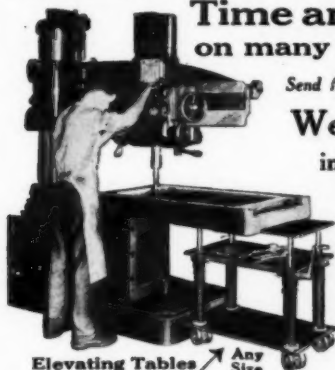
In keeping with today's trend toward greater thought to the aesthetic in designing even the commonest machinery part, Link-Belt Company, Indianapolis, announces that it has given a "new dress" to a 32-year old product, the Link-Belt Silent Chain Drive, by blueing most of the chain, and treating the washers and guide bars to give them a silvered appearance. The blueing of the bulk of the chain has the effect of placing the silvery parts on a dark blue background, thereby emphasizing the silvery parts.

The tradename Silverstreak has been adopted as a fitting designation, since when the drive is in operation the motion of the chain describes a silvery streak. Thus, the modernized chain has a distinctive appearance irrespective of whether it is in motion or lying in stock awaiting installation. It is made in all standard types, for both industrial first reduction drives and automotive silent timing; viz., Side Flanged, Middle Guide, No Back Bend, and Duplex types.

Silverstreak silent chain follows fairly closely on the heels of the announcement of Link-Belt Silverlink Roller Chain.



# Hamilton Portables Save Time and Labor on many operations.



*Send for Illustrated Folder*

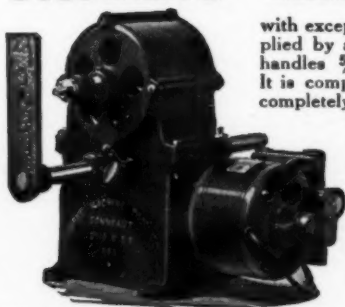
**We Specialize**  
in Dies, Jigs and  
Machinery  
Built to Order

We are always  
at your service.

*Write for Prices*

**The Hamilton Tool Co.,** Hamilton,  
Ohio, U.S.A.

## The **BURKE** No. 606 TAPPING MACHINE



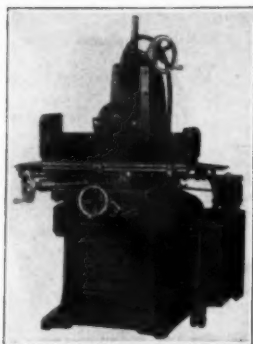
with exceptional power supplied by a  $\frac{1}{2}$  H. P. motor, handles  $\frac{5}{16}$ " taps in steel. It is compactly built and is completely equipped including chuck and switch.

Horizontal operation simplifies handling work on irregular shapes as both hands are free.

*Write for circulars and prices.*

**The Burke Machine Tool Co.,** 297 E. 16th St.,  
Conneaut, Ohio

## New G. & L. No. 25 Hydraulic Feed Surface Grinder



This new grinder is the product of the Galmeyer & Livingston Co., Grand Rapids, Mich., who have been building precision surface grinders and hydraulic feed machines for many years.

The working surface of table is 6"x18" and the automatic longitudinal and transverse movements are sufficient to enable the operator to cover the entire working surface of table with  $\frac{1}{2}$ " wide wheel, which is standard equipment.

The machine is built around a one-piece column and base casting, guaranteeing permanence of alignment between the cross saddle ways and the upright head ways. This casting alone weighs over 1000 lbs., and the proper distribution of this weight assures the rigidity so necessary to long life.

The hydraulic mechanism is mounted inside the base and driven by a 1 H.P., 1200 speed motor. Mechanism is conveniently accessible from either front or rear.

Practically any desired longitudinal table speed up to a maximum of over 50 feet per minute is instantly obtainable. Speed is controlled by lever conveniently located on the front of the saddle and may be varied at the will of the operator.

This machine is available with automatic cross feed or with hand cross feed, whichever lends itself best to customer's particular requirements.

The manufacturers offer a choice of two types of motor drive. For 50 or 60 cycle current they can furnish the machine with a 1 H.P. dynamically balanced ball bearing motor mounted directly on the grinding wheel spindle. A 7" diameter grinding wheel is standard equipment with this construction.

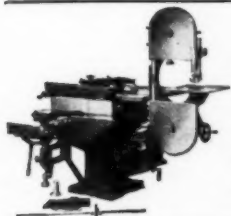
*(Continued on Page 17)*



The second type of spindle drive consists of a 1 H. P., dynamically balanced motor mounted on an adjustable bracket attached to the spindle housing, with a tex-rope drive to the grinding wheel spindle. With this construction they furnish an 8" diameter grinding wheel.

The machine is also obtainable with the portable self-contained motor driven coolant system illustrated. The portable tank stands on the front, positioned against the base of the machine.

The manufacturers will furnish any of our readers with further information upon request.



## **TANNEWITZ** **Quality Woodworker**

**4** Machines at the  
price of ONE.

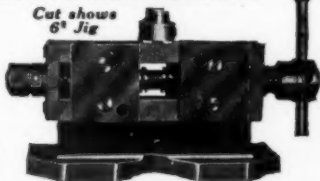
A Band Saw, Saw Table, Jointer  
and Mortiser, For Pattern Shop,  
Shipping Room or Elsewhere—  
Portable!

**THE TANNEWITZ WORKS,**  
Grand Rapids, Mich.

## **Drill-Press Production** **at the** **Lowest** **Cost**

Made In 6", 8"  
and 14" Sizes

Cut shows  
6" Jig



## **"JOHN'S" Universal Drill Jigs**

for

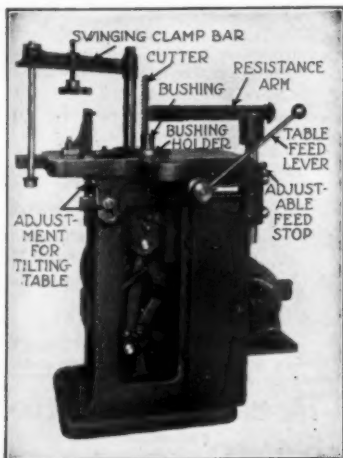
**DRILLING**  
**TAPPING**  
**MILLING**  
**REAMING**  
**GRINDING**  
**CENTERING, Etc.**

Here is a production tool that will reduce your tooling costs. **INTER-CHANGEABLE JAWS** or **STANDARD "V" JAWS** keep the jigs in constant operation so they will handle practically any production job. Reduces loading time, maintains accuracy and gives plenty of chip room. Outlasts the average drill press.

*Write for the Illustrated Folder*

**HEUSER MFG. CO.,** 1638 No. Paulina St.,  
CHICAGO, ILL.

## New Type Davis Keyseaters for Straight and Tapered Keyways



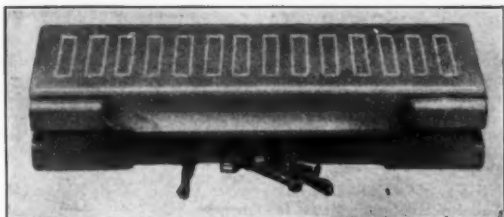
The method employed in Davis Keyseaters is that of a saw or broach, having several teeth cutting at one time. However, their older standard machines are so well known that we will mention here only some improvements that are embodied in the new machine:

I. Tilting table, which may be set in either direction from horizontal, and which is provided with scale and pointer to indicate taper per foot length of bore for which table is inclined.

II. Table feed by means of rack and pinion, with an adjustable collar on pinion shaft to indicate depth of cut, and an adjustable table stop by means of which duplicate cuts can be made without further attention by operator.

III. Vertical set-up of cutter, which remains vertical during all stages of the cutting operation.

*(Continued on Page 20)*



## Rite Magnetic Chuck

Built in a modern plant by experts in this line—of the finest materials.  
Workmanship and Quality guaranteed.

*Made in the Following Sizes:*

17x6x3 $\frac{1}{4}$ " high at \$75.00      14x6x4 $\frac{1}{4}$ " high at \$67.50

*Operated on 110 Volts, D. C.*

Adapted for every purpose for which a magnetic chuck can be used.

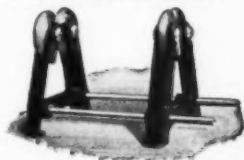
Manufactured by Rite Electric Manufacturing Co., New York

*Sold exclusively through*

**Victor Machinery Exchange,** 251 Centre Street,  
New York City

## Anderson Ever Ready

**Exceedingly Sensitive**



## Balancing Ways

**Easy to Manipulate**

Made in six sizes to balance anything that revolves from a crank shaft to a 24,000 lb. turbine rotor. They require no special leveling, no adjustment, and no centers.

Equipped with glass-hard spindles, chilled steel discs, and especially sensitive ball bearings, to give accurate, long time service.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards.	20"	30"	30"	66"	88"	20"
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight.	45	90	150	350	650	
Code	Read	Bid	Bis	Bib	Bes	

**Anderson Bros. Mfg. Co.**  
1915 Kishwaukee St., Rockford, Ill.

*(Continued from Page 18)*

IV. Improved clamping bar for holding down such work as needs to be clamped to table, although much work, such as small gears, etc., does not need to be clamped.

V. On belt driven machines a foot treadle belt shifter is provided as distinguished from hand shifter as used on the older type of machines.

For descriptive circular write to the Davis Keyseater Co., 403 Exchange St., Rochester, N. Y.

### **Spot and Butt Welding Equipment**

Eisler Engineering Co., 759 South 13th Street, Newark, N. J., Catalogue 35W, entitled "Electric Spot and Butt Welding Machines", recently published, contains tables and information pertaining to spot and butt welding. Numerous illustrations, specifications and descriptions bring out the important features of the many types of spot and butt welders, as well as wire, portable and special welders, saw brazing machines, spot welding timers, and miscellaneous welding accessories. Copies will be furnished upon request.

### **Reed Knurl Line Enlarged**

The Reed Small Tool Works, Worcester, Mass., has recently enlarged its line of standard stock knurls by nearly fifty percent. Their present line of stock knurls affords the trade a much wider selection of what the manufacturers claim is the finest quality that can be produced.

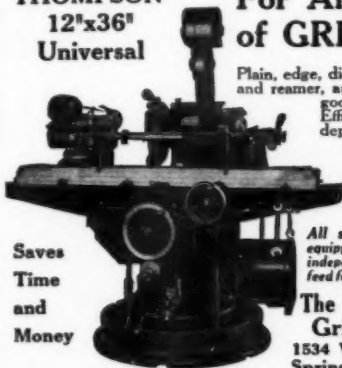
Reed Knurls are made under close supervision from alloy steel of the greatest obtainable toughness and hardness. The hole is lapped to size in order to give it the best bearing surface and closest fit on the pin. Every Knurl is given Rockwell hardness test and, like every other step in the manufacture of this product, these tests are held to close limits.

The knurling surface is highly finished after hardening, so that a like finish is produced on the work. This is a special feature found only in Reed Knurls. It is claimed that users find they last longest and produce the best work.

The manufacturers have issued a descriptive folder and price list, which illustrates approximately a hundred Reed Knurls. A copy will be mailed upon request.

**THOMPSON  
12"x36"  
Universal**

**For All Kinds  
of GRINDING**



Plain, edge, die, surface, cutter and reamer, and internal—and good at all of them. Efficient, accurate, dependable.

Work adjusts to a fixed grinding wheel, an exclusive feature that's better.

*All standard machines equipped with auxiliary independent coarse cross feed for surface grinding.*

**Saves  
Time  
and  
Money**

**The Thompson  
Grinder Co.**  
1534 West Main St.,  
Springfield, Ohio

**Why Waste Time  
On Broken Taps ?**



Every minute spent by your high-priced mechanics in digging out broken taps is a dead loss. When a tap breaks it should be *removed quickly with*

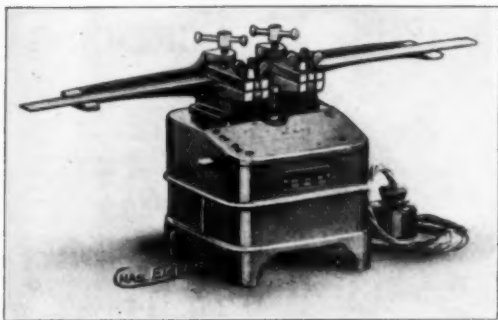
**The Walton Tap Extractor**

This handy tool has steel fingers which back out the tap *without injuring the threads*. It will save you many hours in the course of a year—paying for itself over and over again. Made in three and four-flute styles.

**Try One in YOUR SHOP—  
Sent on 60-day Trial Basis**

**The Walton Company**  
302 Pearl St.,                      Hartford, Conn.

## Eisler Saw Brazing Machine



The Eisler Engineering Company, of 759 So. 13th Street, Newark, N. J., manufacturers of electric spot and butt welders, are now marketing electric brazing machines for joining band saw blades or flat stock.

These machines operate on 110 or 220 volts A. C., and are made in four sizes for brazing widths of stock up to 3.35 inches.

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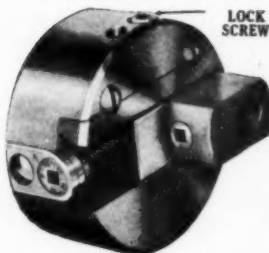
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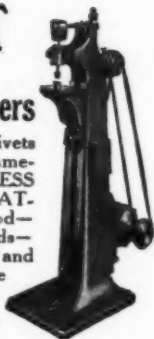


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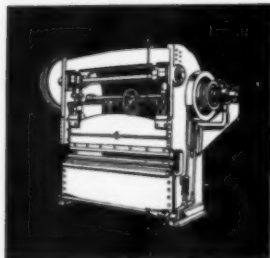
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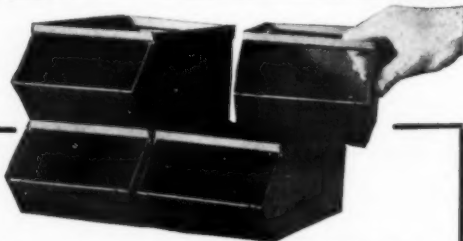


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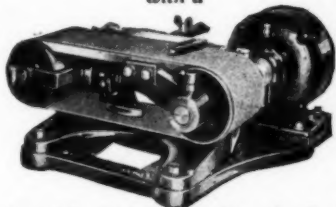
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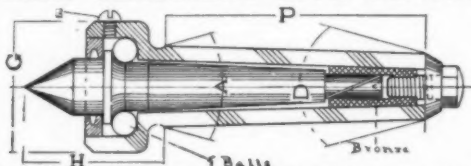
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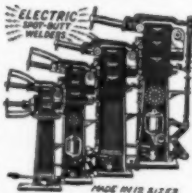
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Fig. 2

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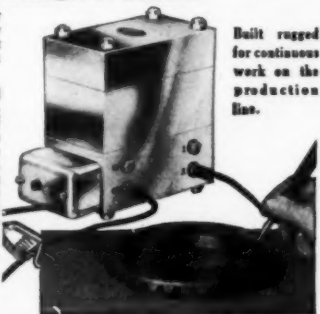
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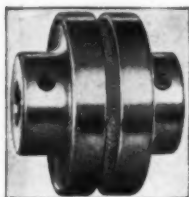
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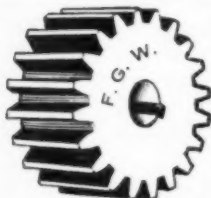


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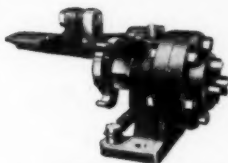
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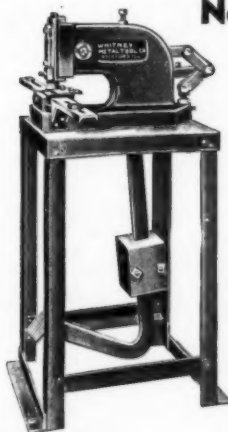
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Tannewitz Works, Grand Rapids, Mich.

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Ave., Chicago

### Grinding Machines, Cutter, Reamer and Tool

National Machine Tool Co., Racine, Wis.  
Thompson Grinder Co., Springfield, Ohio

### Grinding Machines, Cylindrical

Thompson Grinder Co., Springfield, Ohio

### Grinding Machines, Die

Thompson Grinder Co., Springfield, Ohio

### Grinding Machines, Internal

National Machine Tool Co., Racine, Wis.  
Thompson Grinder Co., Springfield, Ohio

### Grinding Machines, Portable Electric

Chicago Wheel & Mfg. Co., M. C. Tool Div.,  
110 S. Aberdeen St., Chicago, Ill.  
National Machine Tool Co., Racine, Wis.  
Strand Co., N. A., 5001 N. Lincoln St., Chgo

### Grinding Machines, Pulley Finishing

Graham Manufacturing Co., Providence, R. I.

### Grinding Machines, Ring Wheel

Graham Manufacturing Co., Providence, R. I.

### Grinding Machines, Surface

Thompson Grinder Co., Springfield, Ohio

### Grinding Machines, Universal

Thompson Grinder Co., Springfield, Ohio

### Grinding Wheels

Chicago Wheel & Mfg. Co., M. C. Tool Div.,  
110 S. Aberdeen St., Chicago, Ill.

### Grinding Wheel Dressers, Diamond

Mendes Cutting Factories, Inc., 505 Fifth  
Ave., New York City

### Grinding Wheels, Mounted

Chicago Wheel & Mfg. Co., M. C. Tool Div.,  
110 S. Aberdeen St., Chicago, Ill.

### Grinding Wheels On Shanks

Chicago Wheel & Mfg. Co., M. C. Tool Div.,  
110 S. Aberdeen St., Chicago, Ill.

### Hack Saw Blades

Armstrong-Bloom Mfg. Co., 341 N. Francisco  
Ave., Chicago

# Classified Finding Index

## Hack Saw Machines

Armstrong-Blum Mfg. Co., 341 N. Francisco  
Av., Chicago

## Hand Saws, Portable Electric

Skillsaw, Inc., 3317 Elston Ave., Chicago

## Heads, Boring

Flynn Manufacturing Co., Detroit, Mich.

## Jigs and Fixtures

American Tool Works, Inc., Hartford, Conn.  
Hamilton Tool Company, Hamilton, Ohio  
Hartford Special Mch. Co., Hartford, Conn.

## Knurls and Holders, for Turrets

Graham Manufacturing Co., Providence, R.I.

## Lathe Drives

Culman Wheel Co., 1850 Altgeld St., Chgo.

## Lathes, Bench

Atlas Press Co., Kalamazoo, Mich.

## Lathes, Manufacturing

Sundstrand Machine Tool Co., Rockford, Ill.

## Leader Pins, Steel

Aemo Industrial Co., 419 N. Carpenter St.,  
Chicago, Ill.

## Machine Tool Motorization

The Production Eqpt. Co., Cleveland, O.

## Mandrels, Expanding

W. H. Nicholson & Co., Wilkes-Barre, Pa.  
Western Tool & Mfg. Co., Springfield, O.

## Micrometers

Bradley Machinery Co., Detroit, Mich.

## Milling Attachments

Burke Machine Tool Co., Conneaut, Ohio

## Milling Machines, Bench

Burke Machine Tool Co., Conneaut, Ohio  
Sundstrand Machine Tool Co., Rockford, Ill.

## Milling Machines, Hand

Burke Machine Tool Co., Conneaut, Ohio  
Sundstrand Machine Tool Co., Rockford, Ill.

## Milling Machines, Plain

Burke Machine Tool Co., Conneaut, Ohio  
Sundstrand Machine Tool Co., Rockford, Ill.

## Motors, Polyphase

The Cleveland Elect. Motor Co., Cleveland,  
Ohio  
U. S. Electrical Mfg. Co., 1510 So. Western  
Ave., Chicago, Ill.

## Motors Varidrive

U. S. Electrical Mfg. Co., 1510 So. Western  
Ave., Chicago, Ill.

## Pins, Leader And Dowel

Aemo Industrial Co., 419 N. Carpenter St.,  
Chicago, Ill.  
Raumbach Mfg. Co., E. A., 1812 So. Ki-  
bourne Ave., Chicago

## Pipe Cutters

Ridge Tool Co., Elyria, Ohio

## Pipe Vises

Ridge Tool Co., Elyria, Ohio

## Pipe Wrenches

Ridge Tool Co., Elyria, Ohio

## Press Brakes

Dreis & Krump Mfg. Co., 7440 Loomis  
Blvd., Chicago, Ill.

## Presses, Arbor

Atlas Press Co., Kalamazoo, Mich.  
W. H. Nicholson & Co., Wilkes-Barre, Pa.  
Wilson, R. K., Buffalo, N. Y.

## Presses, Power

Allsteel Press Co., 12015 So. Peoria Street,  
Chicago, Ill.  
Dreis & Krump Mfg. Co., 7440 Loomis  
Blvd., Chicago, Ill.

## Presses, Punch

Allsteel Press Co., 12015 So. Peoria Street,  
Chicago, Ill.  
Lewthwaite Mchs. Co., T. H., 311 E. 47th, N. Y.  
Dreis & Krump Mfg. Co., 7440 Loomis  
Blvd., Chicago, Ill.

## Pulleys, "V" Type

Up To Date Machine Works, 2906 S. Wabash  
Ave., Chicago

## Punch Press Feeds

Wittek Mfg. Co., 4309 W. 24th Place, Chgo.

## Punch, Shear and Bender, Hand

Armstrong-Blum Mfg. Co., 341 N. Francisco  
Ave., Chicago

## Punches, Hand

Armstrong-Blum Mfg. Co., 341 N. Francisco  
Ave., Chicago  
Buffalo Forge Company, Buffalo, N. Y.  
Lewthwaite Mchs. Co., T. H., 311 E. 47th,  
New York  
Whitney Metal Tool Co., Rockford, Ill.

## Punches and Dies

Lewthwaite Mchs. Co., T. H., 311 E. 47th, N. Y.

## Pyrometers

Illinois Testing Laboratories, Inc., 180 W.  
Austin Ave., Chicago

## Pyrometers, Portable & Stationary

Illinois Testing Laboratories, Inc., 180 W.  
Austin Ave., Chicago, Ill.

## Ratchets

Chicago Gear Works, 769 W. Jackson Blvd.,  
Chicago, Ill.

## Reamer Holders

W. H. Nicholson & Co., Wilkes-Barre, Pa.



## Classified Finding Index

### Riveters, Multiple Spindle

Grant Mfg. & Mche. Co., Bridgeport, Conn.

### Riveters, Pneumatic

Grant Mfg. & Mche. Co., Bridgeport, Conn.

### Riveting Machines

Grant Mfg. & Mche. Co., Bridgeport, Conn.

### Roll Cutters

Armstrong-Bloom Mfg. Co., 341 N. Francisco  
Av., Chicago  
Lewthwaite Mche. Co., T.H., 311 E. 47th, N.Y.

### Sanders, Bench

Up To Date Machine Works, 2900 S. Wabash  
Ave., Chicago

### Sanding Machines

Up To Date Machine Works, 2900 S. Wabash  
Ave., Chicago

### Scraping Machines

Anderson Bros. Mfg. Co., Rockford, Ill.

### Shafes, Flexible

Strand Co., N. A., 5001 N. Lincoln St., Chgo.

### Shaping Machines

Osborne & Sexton Machy. Co., Columbus, O.

### Shears, Hand

Armstrong-Bloom Mfg. Co., 341 N. Francisco  
Av., Chicago  
Lewthwaite Machine Co., T.H., 311 E. 47th  
St., New York  
Whitney Metal Tool Co., Rockford, Ill.

### Shear, Power

Dreis & Krump Mfg. Co., 7440 Loomis  
Bldg., Chicago, Ill.

### Shears, Slitting

National Machine Tool Co., Racine, Wis.  
Dreis & Krump Mfg. Co., 7440 Loomis  
Bldg., Chicago, Ill.

### Special Tools and Machinery

American Tool Works, Inc., Hartford, Conn.

### Speed Reducers

Abart Gear & Machine Co., Cicero, Ill.  
Boston Gear Works, Inc., North Quincy,  
Mass.  
Chicago Gear Works, 709 W. Jackson Blvd.,  
Chicago, Ill.  
Cullman Wheel Co., 1359 Altgeld St., Chgo.  
Foote Gear Works, 4900 West 12th St.,  
Chicago, Ill.

### Speed Reducers, Motorized

The Production Eqpt. Co., Cleveland, O.

### Spot Welding Machines, Speed.

Eisler Engineering Co., Inc., Newark, N. J.

### Sprockets

Boston Gear Wks. Inc., North Quincy, Mass.  
Chicago Gear Works, 709 W. Jackson Blvd.,  
Chicago, Ill.  
Cullman Wheel Co., 1359 Altgeld St., Chgo.

### Straightening Machines

Whitney Metal Tool Co., Rockford, Ill.

### Stud Setters

Proconier Safety Chuck Co., 14 S. Clinton  
St., Chicago

### Tap Extractors

Walton Co., Hartford, Conn.

### Tap Holders

Proconier Safety Chuck Co., 14 S. Clinton  
St., Chicago

### Tapping Attachments

Proconier Safety Chuck Co., 14 S. Clinton  
St., Chicago, Ill.

### Tapping Jigs, Universal

Heuser Mfg. Co., 1035 No. Paulina St.,  
Chicago, Ill.

### Tapping Machines and Attachments

Burke Machine Tool Co., Connecticut, Ohio  
Proconier Safety Chuck Co., 14 So. Clinton  
St., Chicago, Ill.  
Whitney Metal Tool Co., Rockford, Ill.

### Thermometers, Resistance Type

Illinois Testing Laboratories, Inc., 150 West  
Austin Ave., Chicago, Ill.

### Threading Machines, Automatic, Stud

Grant Mfg. & Mche. Co., Bridgeport, Conn.

### Threading Tools

Armstrong Bros. Tool Co., 308 N. Francisco  
Av., Chicago  
Ridge Tool Co., Elyria, Ohio.

### Tool Holders

Armstrong Bros. Tool Co., 308 N. Francisco  
Av., Chicago  
Western Tool & Mfg. Co., Springfield, O.

## Classified Finding Index

### Tools, Boring

Armstrong Bros. Tool Co., 308 N. Francisco  
Av., Chicago

### Tools, Lathe and Planer

Armstrong Bros. Tool Co., 308 N. Francisco  
Av., Chicago

### Tools, Machinists'

Armstrong Bros. Tool Co., 308 N. Francisco  
Av., Chicago

### Tube Flanging Machines

Grant Mfg. & Mch. Co., Bridgeport, Conn.

### Universal Drill Jigs

Heuser Mfg. Co., 1838 No. Paulina St.,  
Chicago, Ill.

### Universal Joints

American Tool Works, Inc., Hartford, Conn.  
Boston Gear Works Inc., Norfolk Downs,  
Mass.

### Used and Rebuilt Machinery

American Machinery Co., Cleveland, Ohio  
Armstrong, J. E., Waterloo, Iowa  
Atlas Equipment Co., 114 S. Clinton St.,  
Chicago, Ill.  
Bernstein, Geo. M., 221 N. Elizabeth St.,  
Chicago, Ill.  
Heuser Mfg. & Mch. Co., Springfield, Ill.  
Brady Mch. Co., Detroit, Mich.  
Hetherford, Percy M. & Son, 114-118  
Liberty St., New York City  
Brown Machinery Co., St. Louis, Mo.  
Brownell Machinery Co., Providence, R. I.  
Cincinnati Mch. & Supply Co., Cincinnati, O.  
Columbia Machinery Co., Fort Wayne, Ind.  
Consolidated Machine Shops, 2852 Fulton  
Chicago, Ill.  
Craig, Jr., Thomas H., Bridgeport, Conn.  
Davis Machinery Co., Toledo, Ohio  
Detroit Gasket & Mfg. Co., Detroit, Mich.  
Eastern Machinery Co., Cincinnati, O.  
Elyria Baiting & Mch. Co., Elyria, Ohio  
Emerson & Co., Louis E., 1761 Elston Ave.,  
Chicago, Ill.  
Easley Machinery Co., E. L., 825 Keen St.,  
Chicago, Ill.  
Goldman, Harvey H., Detroit, Mich.  
Goldscher Machinery Co., 825 W. Lake St.,  
Chicago, Ill.  
Herber Machinery Equipment Co., 30 S.  
Clinton St., Chicago, Ill.  
Hill, Clarke & Co., 646 W. Washington Bldg.,  
Chicago, Ill.  
Indianapolis Machinery & Supply Company,  
Indiana, Ind.  
Industrial Plants Corporation, New York City  
International Mch. Co., Detroit, Mich.  
Interstate Mch. Co., 130 S. Clinton, Chgo.  
Iroquois Machinery Co., Buffalo, N. Y.  
Johnson & Sons Machine Co., Wm. C.,  
St. Louis, Mo.  
Jones Machine Tool Co., Cincinnati, Ohio  
Kennard-Rafkin Mch. Corp., Jersey City,  
N. J.  
Klanber Mch. Co., E. L., St. Louis, Mo.  
Lucas & Son, J. L., Bridgeport, Conn.  
McDonald Machinery Co., St. Louis  
Marr-Galbreath Mch. Co., Pittsburgh, Pa.  
Midland Steel & Equipment Co., 402 South  
Clinton St., Chicago, Ill.  
Midwest Equipment Co., 628 W. Lake St.,  
Chicago, Ill.  
Mid-West Machine Tool & Supply Company,  
Davenport, Iowa  
Miles Machinery Co., Saginaw, W. S., Mich.  
Morley & Co., 45 Mill St., Astoria, Long  
Island, N. Y.

### Used and Rebuilt Machinery—Cont.

Norton-Broadway Machinery Co., Cincinnati,  
Ohio  
O'Brien Machinery Co., Philadelphia  
Oviatt & Co., D. C. Cleveland, Ohio  
Osborne & Sexton Mch. Co., Columbus, O.  
Reliance Machinery Sales Co., Pittsburgh, Pa.  
Rentachler & Co., J. F., 6722 N. Maplewood  
Ave., Chicago, Ill.  
Reynolds & Son, George T., Providence, R. I.  
Russell Machine Co., Pittsburgh, Pa.  
Scott-Sansbach Mch. Co., 4607 W. 20th St.,  
Chicago  
Segal Machinery Co., 808 W. Lake St.,  
Chicago, Ill.  
Slewek Tool Co., Ferndale, Mich.  
Simmons Machine Tool Corp., Albany, N. Y.  
Stegeman Machinery Co., Milwaukee, Wis.  
Strong, Carlisle & Hammond Co., Cleveland,  
Sun Machinery Co., 28 Van Buren Street,  
Newark, N. J.  
Surplus Tool & Equipment Co., Toledo, Ohio  
United Mch. & Supply Co., St. Louis, Mo.  
Victor Machinery Co., 128 S. Clinton Street,  
Chicago, Ill.  
Victor Machinery Exchange, 261 Center St.,  
New York City  
Waters, C. H., Elkhart, Ind.  
West Penn Machinery Co., Pittsburgh, Pa.  
White Mch. Co., A. D., 188 N. Jefferson  
St., Chicago  
Wigginworth Mch. Co., Cambridge, Mass.  
Wohlsch Machinery Sales, 21st & Marshal  
Bldg., Chicago, Ill.

### Valves, Foot, Lever & Solenoid

Nicholson & Co., W. H., Wilkes-Barre, Pa.

### Vises, Drilling Machine

Armstrong-Hum Mfg. Co., 341 N. Francisco  
Av., Chicago  
Armstrong Bros. Tool Co., 308 N. Francisco  
Av., Chicago  
Graham Manufacturing Co., Providence, R. I.  
Heuser Mfg. Co., 1838 No. Paulina St.,  
Chicago, Ill.  
Martin Tool & Die Works, J. E., Springfield, O.

### Vises, Machinists'

Western Tool & Mfg. Co., Springfield, O.

### Vises, Milling Machine

Graham Manufacturing Co., Providence, R. I.  
Hartford Special Mch. Co., Hartford, Conn.

### Vises, Shaper

Graham Manufacturing Co., Providence, R. I.

### Welding Machines, Electric Spot

Eisler Engineering Co., Inc., Newark, N. J.

### Welding Machines, Resistance

Eisler Engineering Co., Inc., Newark, N. J.

### Wheel Dressing Diamonds

Mendes Cutting Factories, Inc., 505 Fifth  
Ave., New York City

### Wheels, Grinding

Chicago Wheel & Mfg. Co., M. C. Tool Bldg.,  
118 S. Aberdeen St., Chicago, Ill.

### Woodworking Machinery

Tannetitz Works, Grand Rapids, Mich.

## Used and Rebuilt Machinery Section

Lists of Used and Rebuilt Machinery, either For Sale, Wanted, or For Exchange, set in uniform style, will be published in the Classified Section at the rate of 60 cents a line across the page, each issue, plus \$3.00 for name and address. Minimum charge, \$6.00. No display permitted.

Write directly to those offering the machines for sale, for prices and full descriptions. If what you seek is not advertised, use the blank enclosed to make known your wants in either new or used machinery and the publisher will pass them along to the advertisers.

### FOR SALE BY

**J. Bieser Mfg. & Machy. Co., 16th & Madison St., Springfield, Ill.**

Drill, radial, 7' Bement.  
Grinder, knife, 72" Hickok.  
Hydraulic press, 300-ton horizontal.  
Lathes, all sizes and kinds.  
Motors, electric, all sizes.

Millers, No. 3 Cinti., 3-H LeBlond.  
Punch presses, o. b. i. and arch.  
Shapers, 20" Smith & M., 12", 16".  
Slotter, 13" Bement.  
Steam pumps, Deane & Worth.

### FOR SALE BY

**Midland Steel & Equipment Co., 400 S. Clinton St., Chicago, Ill.**

Hack saw, 8x8 Racine high speed.  
Lathe, 20"x8' Walcott, q. c. g.  
Miller, No. 4 Becker plain.  
Radial drill, 3' Western.  
Radial drill, 5' Cincinnati-Bick, univ.

Shaper, 14" Rockford.  
Shaper, 24" Rockford.  
Sheet leveler, 36" Poole, 16 ga.  
Stromberg Electric Time System,  
with 12-job recording clocks.

### FOR SALE BY

**E. L. Klauber Machinery Co., 320-22 S. Third St., St. Louis, Mo.**

Lathes, 16x8' Lehman q. c. g.; 22"x12' Lodge & S. q. c. g.; 30"x14' Bradford.  
Millers, No. 2 Cincinnati plain; No. 2 Hendey Lincoln; No. 3 Burke.  
Multiple drill, 10 spindle Gardam, adjustable spindles.  
Presses, hydraulic 20 and 30 ton capacity, Lourie & Southwark.  
Screw machines, No. 0 Brown & Sharpe, automatics; 24" Gridley, 4 spindle.  
Tapping machines, 8" Rickert Shafer; No. 6 St. Louis.

### FOR SALE BY

**Segal Machinery Co., - - - 810 W. Lake St., Chicago, Ill.**

Air compressors, all sizes.  
Drill, 5' Dreses, s.p.d., gr. box. \$350.  
Drill, 25" Barnes, power feed.  
Lathe, 16x7 Chard, q. c. g., tap. att.  
Lathe, 26x14 Blaisdell, semi q. c. g.  
Surface grinder, No. 3 Brown & Sharpe

Miller, No. 2 Osterlein, swivel vise.  
Screw machine, No. 3 Foster, equipt.  
Shaper, 24" Milwaukee, b.g., sw. v.  
Planer, 24x24x6 Pond, and vise.  
Planer, 36x36x10' L. & D., 2 heads.  
Planer Type, magnetic chuck, \$250.

### FOR SALE BY

**Columbia Machinery Co., 130 E. Columbia St., Fort Wayne, Indiana**

Automatic, 2-G Brown & Sharpe, serial No. 4348, motor drive.....\$500.  
Drill, multiple, No. 11 Natco 8 spindle.....175.  
Miller, No. 3 Ryerson-Conradson plain, s. p. d.....450.  
Miller, No. 2 Cincinnati high power plain, rapid power traverse.....500.  
Miller, No. 2 Van Norman, dividing heads, slotting attach., complete.... 650.  
Screw machine, No. 3 B. & O. geared head, with motor.....250.

# USED AND REBUILT MACHINERY

## FOR SALE BY

Wigglesworth Machinery Company

199 Bent Street,	Cambridge, Mass.
Boring mill, No. 0 G. & L.	Lathe, 30"x15' Niles-Bement-Pond.
Drill, 5" American universal.	Lathe, 40"x26' Flather.
Engraver, E. & Keller.	Miller, No. 3 Brown & Sharpe.
Gear hobber, Milson.	Miller, 3B heavy Brown & Sharpe.
Grinder, 20"x168" Landis plain.	Jones & Lamson, 2 spdl., like new.
Grinder, Pratt & W. 14", model B.	Shear, combination, Schatz.
Lathe, 25"-28"x24" Le Blond, gd. hd.	Turret lathe, No. 6 Warner & S.

Send for Complete Stock List.

## FOR SALE BY

Marr-Gallbreath Machinery Co., 55 Water St., Pittsburgh, Pa.

Quality Not Reflected in These Low Prices.

Air comp., gas dr., 285 cuft... \$ 500.	Press, Emb'ng 50-ton Ferracut... 600.
Air comp., Chicago, 246 cuft... 300.	Press, horn, No. 2 Michigan... 110.
Boring mill, No. 0 G. & L., 34" bar... 750.	Press, horn, 42-h. p. Toledo... 225.
Boring mill, 30" Colburn, tr. hd. 375.	Presses, o. b. i., No. 4 Toledo
Boring mill, 72" Cin "PRT," 2250.	No. 18 Bliss, each... 100.
Brake, steel, Chgo. 8"x14 ga b.d. 250.	Press, o. b. i., No. 3 Niagara... 135.
Brake Keene toggle, 10"x20 ga. 400.	Press, o. b. i., No. 4 Niagara... 165.
Brake, Ohl 8"x16 ga., pr. type. 800.	Press, o. b. i., No. 21 Bliss... 250.
Die sinker, No. 3 P. & W., r. t. 350.	Press, Punch No. 1-C Standard 60.
Drill, 26" Rockford, tap. att. 250.	Press, screw, No. 87 Niagara... 50.
Drill, 20" Barnes, all geared... 100.	Press, S. S. No. 744 S Bliss s.c. 785.
Drill, 14" Leland-G., b. b. sen. 100.	Press, S. S. No. 784 Bliss... 3,000.
Gear cutter, 18" Newark... 200.	Press, Wheel, 60-ton, 34" W-S 200.
Gear cutter, (Pinion) 1x1" S & C 200.	Punch & s., Pels triple comb. 650.
Grinder univ. t & c. No. 2 Grn'fd 150.	Punch & s., No. 52 Beloit... 125.
Hack saw, 6x6" Milford, m. d. 75.	Punch & s., s. e., No. 6 L & A... 100.
Hack saw, 3x15" Economy... 75.	Punch & s., s. e., No. 4 L & A... 250.
Hack saw, 13"x16" Peerless... 250.	Punch & s., d. e., cap. 1 1/2"x1" 500.
Hammer, 30 lb. United, pwr. 85.	Punch, gang, 48"x40 tons... 200.
Hammer, 40 lb. Bradley, helve 150.	Rolls, crimping, 6"x16 ga... 350.
Hammer, 125 lb. Beaudry pwr. 250.	Rolls, 10"x3" U. S. Forming... 150.
Hammer, 800 lb. Erie s. f. stm. 300.	Saw, Cold, Espen-Lucas, 7" rds. 200.
Header, cold 8" Waterbury. F. 1200.	Shapers, 16" G. & E., "H. D." for motor drive... 500.
Keyseater, 24"x24" Morton... 500.	Shaper, 24" G. & E. "H. D." for motor drive... 865.
Lathe, 20"x8" Hendey, t. a. 450.	Shaper, 20" Cincinnati, m. d. 450.
Lathe, 20"x10" Hendey, t. a. 600.	Shaper, 20" Stockbridge... 250.
Lathe, 20"x10" American gd. hd. 400.	Shaper, 31" Smith & Mills... 375.
Lathe, 28"x14" S. & B., t. a. ck. 550.	Shaper, 24" P. & J. "RT," m. d. 400.
Lathe, 14" Fay automatic... 750.	Shear, Schatz combined, 219 FA 75.
Magnetic chuck, 14"x40" Heald 175.	Shear, slitting No. 24-S Buffalo 250.
Miller, univ. No. 12 Becker... 300.	Shear, gap, 42"x14"x18" gap... 500.
Miller, pl. No. 2-B Milw. m. d. 200.	Shear, squaring, 10"x16 ga Ohl 500.
Miller, plain No. 3 Cincinnati. 300.	Shear, throatless, 8" Lennox... 275.
Miller, No. 3 Ohio hvy. 854 new 500.	Slotter, Garvin, die, 12" R. T. 150.
Miller, pl. No. 4 Ohio long new 650.	Testing mch., 100-ton Olsen... 250.
Miller, pl. No. 4 Ohio Special. 750.	Testing machine, Cement... 125.
Pipe machine, 8" Jarecki... 450.	Turret, No. 4 W. & S. power feed to turret... 250.
Planer, 30x30"x10" W.-P. 2-hds. 350.	Turret, 2"x24" J. & L., chuck. 165.
Press, No. 1 Manly arbor... 35.	Welders, arc, 200 amp. USL... 200.
Press, Arch, No. 3A Mossberg 100.	Welder, arc, 200 amp. Lincoln 250.
Press, Arch, No. 3A Mossberg dial feed... 150.	Welder, arc 300 amp. Lincoln 300.
Press, Arch No. 3-A Mossberg roll feed... 150.	Welder, arc, 400 amp. Lincoln 350.
Press, D. C. No. 138A Stoll, 3" stroke... 850.	Wire crimping mch., 8 pr. rolls 75.

Partial List. Get Our Complete Stock List.

# USED AND REBUILT MACHINERY

## FOR SALE BY

West Penn Machinery Company

1206 House Building,

Pittsburgh, Pa.

Air compressors, 30 to 2500 cu. ft.  
Boilers, Sterling, W. T. 550 & 1200 h  
Boring mill, 24" Bullard, New Era.  
Bor. mills, 42" & 62" Bullard, 2 heads.  
Boring mill, 72" Cin., 2 hds. s. p. d.  
Boring mill, 10-16, Niles, b. d.  
Bor. mill, Niles floor type, 4 & 6 1/2" bar.  
Boring mill, hor. 4" bar Bement, m. d.  
Brake, box & pan, 60"x10 ga. D. & K.  
Brake, 10' Dreis & K. 8", m. d.  
Bulldozers, Nos. 2, 4, 6, 9, 28, & 30.  
Cranes, Electric Traveling.  
Draw bench, 50,000 lb. Brightman d  
Draw bench, 150,000 lb. Stand, m. d.  
Drill, mult., 4-spdl. Avey, belt drive.  
Drill, 4-sp Colburn, table 20x72.  
Drill, hvy., duty, D-6 36" Colburn.  
Drill, mult., 16 spdl. Fox No. 1 m.t.  
Drill, radial, 4' Prentice, t. a., b. d.  
Drill, radial, 5' Cin-Bick, t. a., s. p. d.  
Drill, radial, 5' N. B. P., mtr. on arm  
Drill, rad., 6' Cin Bickford, t. a., m. d.  
Drill, radial, 6' Dreses, s. p. d.  
Drills, upright 10" to 36".  
Engine, gas, horiz., 20 h. p. Bessemer.  
Flanger, McCabe, 3" capacity, dies.  
Forge, No. 409 Champion, 40x30.  
Forging mch. 14" Acme, st. fr. b. d.  
Gear cutters, 11", 18" & 24" Gleason.  
Gear cutter, spur, 36"x10" Newark.  
Grinder, elec. 8" B. & D., dbl. end.  
Grinder, naildie, No. 101 Bridg., m. d.  
Grinder, surface, No. 2 Brown & S.  
Grinder, surf. 42" Spring, tbl. 18x84".  
Grinder, surface, No. 16 Blanchard.  
Grinder, surf-94" Diamond, m. d.  
Grinder, tool & cut., No. 2 Walker.  
Grinder, univ. No. 3 Landis, 12x40".  
Generators, eng., oil, gas, belt & mtr.  
Hammer, Blacker, power, 35-lbs.  
Hammers, Nos. 2-B, 3-B, 4-B, Naxel.  
Hammers, steam, 600 lb. to 6000 lbs.  
Keyseater, Nos. 3 and 8 Mitts & M.  
Lathe, 16"x16" Le Blond, q. c. g., d. b. g.  
Lathe, 16"x10" Hendy, q. c. g., t. a., m. d.  
Lathe, 14"x12" Lodge & S., g. h., m. d.  
Lathe, 24"x12" Prentice grd. hd. s. p. d.  
Lathe, 24"x16" Bridgeford, g. hd. m. d.  
Lathe, 26"x21" 6" Bridgeford, g. h.  
Lathe, 36"x18" Putnam, l. c. g., t. a. b. d.  
Lathe, 45"x34" Bridgeford, g. h., m. d.  
Lathe, 30"x16" Putnam, l. c. g., t. a. b. d.  
Lathe, 54"x17" Pond, semi-grd. hd.  
Lathe, 61"x39", H-S & G. grd. hd. m. d.  
Lathe, gun boring 49"x53" m. d.  
Lathe, turret, No. 6 Warner & S.  
Lathe, turret, 18" Libby, m. d.  
Lathe, turret, 24" Steinel, 64" hole.  
Lathes, spinning, 22"x5", b. b., b. d.  
Miller, pl., Nos. 3 & 5 Cinc., s. p. d.  
Miller, pl., No. 34 Ohio, tbl. 13 1/2x60".  
Miller, universal, No. 3 Le Blond.  
Miller, univ. Cin. tbl. 56"x13 1/2" m. d.

Nut tapper, Acme, 10-spdl 1 1/2", s. auto.  
Nut mche., Wat-Far. 3" cold, b. d.  
Pipe machine, 2" Landis, belt drive.  
Pipe mches., 4", 6" & 8" Oster.  
Planer, 30"x30"x10" Woodward & P.  
Planer, 60"x20" N-B-P. rev. m. d.  
Planer, 96"x20" N-B-P. mtr. drive.  
Planer, 96"x96"x33' 4 hds. rev. m. d.  
Planer, o. s. 42"x14' Det. & H., b. d.  
Planer, o. s. 48"x48"x16" D. & H. m. d.  
Press, arbor, No. 17 Green., 18-ton.  
Press, cam, No. 69N Bliss, dbl. acting.  
Press, o. b. i. Bliss, Nos. 18, 19, 20.  
Press, No. 4 Nia, o. b. i., grd. 3" str.  
Press, No. 64 Wat. Far. draw & red.  
Press, screw, No. 87 Niagara.  
Press, forging, United 1000 ton hyd.  
Press, wheel, 200-ton Elmes, 48".  
Press, wheel, 300-ton, motor drive.  
Punch & s., No. 5-H Hertsch hand.  
Punch, No. 56 H. & W. 14", 1, 12" thrt.  
Punch, No. 7 Thomas, 8" 1/2", spac. tbl.  
Punch, No. 12 Thomas, 14"-1" 7/8" thrt.  
Punch, mult., No. 8 H. & J. 10".  
Riveters, air, hammer, spinning.  
Roll, bend, 50" Bertsch, 3/16" init type  
Roll, bending, No. 7 Bertsch 8"x14".  
Rolls, bend 10"x18" Bertsch, t. m. d.  
Rolls, bend 10"x14" Wicks, pyr. t. m. d.  
Rolls, bend, 14"x11" Bertsch pyr. t.  
Saws, band, 26 and 33" Fay & Egan.  
Saws, friction, Nos. 2 & 3 Ryerson.  
Saw, hack, 4"x4" Racine Jr., m. d.  
Saw, hack, No. 4 Robertson, 8"x8".  
Saw, cold, No. 6 Coch. Bly, s. p. d.  
Screw mchs. Nos. 52, 53, 55 Nat. A.  
Shapers, 16", 20", 24" & 36" G. & E.  
Shaper, 24" Flatner, m. d.  
Shaper, 32" Cincinnati, m. d.  
Shaper 48" Morton draw cut, m. d.  
Shear, angle, 6"x6"x1" H. & J.  
Shears, alligator, 14", 2", 3" & 4".  
Shear, bevel, Lennox 4", b. d.  
Shear, circle, No. 13A Niagara, b. d.  
Shears, foot, 30" nd 36" Pexto.  
Shear, guil. No. 5 H. & J. 4" sq., m. d.  
Shear, serpentine, 3/16" Lennox.  
Shear, 8" Bertsch, 3", 18" thr., m. d.  
Shear, 12" x 1/2" Wheeling, 31" gap.  
Shear, slit, O. E. cap. 1/2", 14" blade.  
Slotter, 15" B-M. tbl. 30" dia., m. d.  
Slotter, 36" Bement, crank, 15" drill.  
Straightner, 2-A Kane & R. 20-roll.  
Straightner, 72" Newbold, 9-roll m. d.  
Straightners, 4 1/2", 4" Abramson.  
Str. & sh., No. 1026 B. & J. 9"x3/16"  
Testing mch., Brinnell hardness.  
Thread rollers, 5/16", 1" & 1 1/2", b. d.  
Upsetters, 1" to 6".  
Welders, arc, 200 amp. Hobart, a. c.  
Welding gen., arc, 200amp. West 220.  
Welder, butt, 40 k. w. T. W. B8-450.  
Welder, seam, 100 k. v. a. Gibb, El.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Harvey H. Goldman, - - 9040 W. Jefferson Ave., Detroit, Mich.**

Automatics, Gisholt Simplim., m. d.  
Automatics, 1 $\frac{1}{2}$ " model C, Cleveland.  
Automatics, 1 $\frac{1}{2}$ "x7" New Britain.  
Bolt cutter, Landis 2 spdl.  $\frac{1}{2}$ ", m. d.  
Drills, 4 spin. Avey No. 2, 8" o. h.  
Drills, 4 spin. Avey No. 2, 12" o. h.  
Drills, 3 spin. Avey No. 2, 12" o. h.  
Drills, 3 spin. Avey No. 2, 8" o. h.  
Drills, 3 spin. Edlund No. 2B.  
Drills, 5 spin. Detroit, m. d.  
Grinder, No. 2 Gardner disc, m. d.  
Grinder, No. 65 Heald cyl. & jig.  
Grinder, No. 2 Norton tool & cutter.  
Lathe, 15"x6" South Bend, m. d.

Lathe, 16"x6" American, g. h., m. d.  
Miller, No. 2 Craftsman Cont. Prod.  
Nibbler, No. 1-A Campbell.  
Polishers, No. 3 Gardner, (7).  
Press, No. 3 Loshbough, J., o. b. i.  
Separator, chip, McKenzie, m. d.  
Shaper, 24" American, motor drive.  
Shear, No. 16-A Niagara rotary, md.  
Shear, No. 362 Pexto, m. d., 62"x10ga.  
Tapper, No. 2 b. g. Garvin, m. d. v. sp.  
Turret lathe, No. 4 W. & S. univ.  
Turret lathe, No. 4 Millholland univ.  
Welder, No. SL-24 Gibb Projection.  
Welder, 12 k.v.a. Am. Elec. Fusion.

### FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co.,**

**1211-1223 Hadley Street,**

**St. Louis, Mo.**

Air compressors, all sizes.  
Bar shear, 5" x $\frac{1}{2}$ ".  
Bolt threaders, 1" & 1 $\frac{1}{2}$ " Landis.  
Boring mills, 36", 42", 60" & 72".  
Bulldozers, No. 3 and No. 4.  
Drill, 1-spindle Avey.  
Drill, 6" arm American radial.  
Grinder, 12"x60" Landis universal.  
Grinder, 12"x36" Thompson univ.  
Grinder, 24"x96" Landis cylinder.  
Grinder, No. 60 Heald cylinder.  
Hammer, No. 3B Nazel.  
Lathes, 16"x6" tool room, (2).  
Lathe, 16"x7" P. & W. geared head.  
Lathe, 16"x9" Lehman.  
Lathe, 24"x12" Schumacher & Boye.  
Lathe, 36"x18" American, q. c. g.

Lathe, 30"x16" Prentice, geared hd.  
Miller, No. 2 Cincinnati, plain.  
Miller, Ingersoll slab, 27"x23"x14"  
bed, 4 heads, motor drive.  
Pipe machines, 4" and 8".  
Planer, 60"x48"x10" Gray.  
Press, No. 24 Toledo cam drawing.  
Press, No. 59 Niagara grd. tie rod.  
Press, No. 723 Toledo cam drawing.  
Punch, No. 14 W. W., 12" throat.  
Punch, two 20" throats, cap. 1" in 1".  
Sand slinger, Beardsley & Piper.  
Shaper, 16" Smith & Mills.  
Shaper, 28" Smith & Mills.  
Shear, circle, No. 310 Niag. 48" thr.  
Turret lathe, No. 3A W. & S., 5"  
hole, motor drive.

### FOR SALE BY

**Geo. M. Bernstein & Co.,**

**14 S. Clinton St., Chicago, I.I.**

Miller, No. 3 Cinn. univ., high pwr.;  
vertical and dividing heads, etc.  
Brake, pwr. No. 166 Chicago, 6"x $\frac{1}{2}$ ".  
Bolt cutter, 1 $\frac{1}{2}$ " Reliance; 9" std. dies.  
Bolt cutter, 2" National; 37 sets dies.  
Drills,  $\frac{1}{2}$ " b. b. bench; arranged  
motor drive, new \$33.25.  
Drills,  $\frac{1}{2}$ " Avey,  $\frac{1}{2}$ " cap., double b. b.  
Drill, 4 sp. Allen, No. 2 m. t., b. b.  
Drill, 24" Barnes camel back tap, att.  
Drill, No. 2 & 4 Col., hvy. duty, mfg.  
Drills, 20, 24, 26 & 34" b. g., p. fds.  
Drill, 2 $\frac{1}{2}$ " Fosdick & 3" Silver s. p. d.  
Die filers, No. 5 & 6 Rearwin, arr.  
motor drive, new.  
Grinder, No. 2 LaSalle surf. chuck.  
Grinder, No. 13 B. & S. universal.  
Hammers, No. 1 $\frac{1}{2}$ B, 2A & 4A H. S.  
riveters.

Lathe, 11"x3' 6" Sheldon m. d., semi.  
Lathe, 14"x6" Seneca F., p. c. g., ck.  
Lathe, 15"x6" Rock, semi-q. c. g., chk.  
Lathe, 20"x9" G. J., q. c. g., chuck.  
Lathe, 32"x16" S. & B., q. c. g., chks.  
Lathe, No. 4 Mill. turret, 1 $\frac{1}{2}$ " cap.  
Miller, No. 4 Burke hand; pwr. feed.  
Miller, 4 $\frac{1}{2}$ "x12" thread; Pratt & W.  
Miller, No. 1 Bick. hand; pwr. fds.  
Miller, No. 1 $\frac{1}{2}$ A Rockford, plain.  
Miller, No. 1 Kemp. univ., vert. hd.  
Press, No. 3 Rock. o. b. i.; 2" str.  
Saw, 6"x6" H. & R. metal band.  
Screw mch.; No. 2G B. & S. auto.  
Shaper, 16" Springfield crank.  
Shaper, 16" Smith & Mills, crank.  
Shaper, 20" Kelly, crank; bk. grd.  
Scleroscope, Shore, model "C".  
Tappers, Nos. 1 & 2 Garvin auto.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Stegeman Machinery Co., 3530 W. Pierce St., Milwaukee, Wis.**

Automatics, 1", 1 1/2", 1 3/4" 4-spd. model G Gridley and 4 1/2" single spindle.  
 Drills, 2 No. 6-D Coiburn hvy. duty, compd. table, var. d. c. motor drive, No. 25 spdl. Detroit; No. 12, 20-sp. Natco; 1, 2 & 3-spd. Avey, Henry & Wright & Leland-Gifford h. s.; b.b., many others, all types & sizes.  
 Grinders, Taylor & Fenn internal, No. 70 Heald internal, No. 6 Landis cylinder, 10x36 Norton cylindrical, and other sizes and types.  
 Lathes, 14x7 Hamilton q. c. g., c. d., 24x14 LeBlond q. c. g. taper attach. 4 1/2" raising blocks, 36 1/2" swing; various sizes and types including 14" Fay automatic m. d., like new.  
 Metal washer, Blakeslee washer, Crescent rinser, tandem conveyor type, m. d., 24" wide 16" high.  
 Millers, No. 2-B K. & T. pl., No. 1-A K. & T. vert., No. 2-M Cin. vert. Pipe machines, 4" Oster, 8" Stoeber.  
 Lathe, 18x10 Monarch, 8 speed, hel. grd. hd., a. c. motor-in-base excel. cond.  
 Miller, No. 2 Kempsmith Maximiller, ex. long 72" table, vert. hd., a real buy.  
 Your inquiries solicited—many other machines available.

Planers, 36"x36"x16' Cincinnati 2 hd., 36x36x14' D. & H. 3 heads m. d.  
 Polishers, No. 3D Gardner s. s. m. d., No. 3-CB Gardner s. s., m. d.  
 Presses, 285-ton Hamilton s. s., dbl. grd. sgl. crank, 32" betw. housing excellent condition; No. 5 Bliss-Stiles; No. 79 C Niagara s. s. d. c.; No. 165 Toledo toggle, m. d., No. 1 R. & K., No. 1 1/2 Bliss-Cons., No. 3 R. & K. No. 20 Bliss; No. 4 L. & J. m. d., o. b. i.  
 Saws, 6x6 Peerless & Racine; No. 6 Cochrane-Bly with grinder.  
 Shapers, 24" Potter & Johnston; 24" Ohio, helical steel gears.  
 Shears and punches, No. 51 & No. 54 Hendley & Whittemore.  
 Straightening rolls, No. 8—38" Hilles & Jones 18 roll, 2 1/2" dia., geared motor drive, like new.  
 Threaders 1" Landis, double head.  
 Turret lathes, Warner & Swasey, Nos. 2, 4, 6, Nos. 2-A and 3-A.

### FOR SALE BY

**Scott-Bansbach Machinery Co., 4607 West 20th St., Chicago, Ill.**

Miller, No. 2H B. & S. plain, cone type, with vise, c/s and arbors.....	406.
Miller, No. 2 MU. Garvin universal, fully equipped.....	350.
Miller, 12" Cincinnati, mfg. type, s. p. d., vise and pump.....	150.
Miller, Briggs, G. & E. manufacturing, 16".....	75.
Miller, No. 5 Becker vertical, no rotary.....	300.
Miller, No. 7 Becker, Lincoln type.....	75.
Miller, Ingersoll slab, 42"x36"x9".....	400.
Planer, 24x24x6 Ohio heavy duty, 1 head.....	250.
Planer, 36"x36"x12' Cincinnati with 2 heads.....	800.
Press, No. 0 Consolidated bench o. b. i. with mtr., 1 1/2" str. 350 lbs. 7 1/2 ton.....	100.
Press, No. 18 Bliss o. b. i., 1 1/2" stroke, 750 lbs., 12 ton capacity.....	100.
Press, No. C4 Farracute o. b. i., 2" stroke, 3800 lbs., 35 ton capacity.....	300.
Press, No. 64 V. & O., s. s., d. c., 71 ton, 2 1/2" str., 22" between.....	700.
Punch, 10" throat, single end, Kneeland or Spaulding.....	each 100.
Riveter, No. 3 A, H. D. High speed hammer, cap. 1/2", belt driven.....	150.
Riveter No. 5 A, High speed hammer, cap. 1/2", motor shelf.....	275.
Saw, No. 3 Klem, band, for metal cutting, belt drive.....	300.
Saw, Napier, model B, band, for metal cutting, belt drive.....	300.
Scleroscope, Shore complete with stand and blocks, model C.....	125.
Shear, 30" Bertsch, 16 gauge, 12" gap, foot power.....	75.
Separator, National, oil, 11 quart capacity.....	50.
Separator, oil, American 1 1/2 bushel.....	200.
Shaper, 20" Cincinnati, crank, back geared, vise and c/s.....	350.
Shaper, 24" Walcott, H. D., back geared crank, vise and c/s.....	400.
Swedger, No. 4 Etna, 2" tube capacity.....	250.
Tapper, Rickert-Shafer, 1/2" cap., bench type.....	50.
Tapper, No. 1 Garvin Automatic, capacity 1/2" iron, 1/2" steel.....	75.
Threader, 1" H. & G., floor type.....	100.
Turret lathe, 2x10" Millholland, for chuck and bar work.....	400.
Welder, butt, Toledo, 8 KW., capacity 1/2" round.....	150.
Welder, spot, American, 12 k. v. a., 12" throat, Type L. D. A.....	200.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**United Machinery & Supply Co., 1241 Walton Ave., St. Louis, Mo.**

Bending machine, Wallace No. 15.  
Blue print machine, Pease, cyl. type  
Brake, 10"x16" Dreis & K., m. d.  
Hammers, Little Giant, 25 & 50 lbs.

Pug mill, Mueller.  
Punch presses, Nos. 56, 167 and 168  
Toledo.  
Rolls, 12"x1" & 60"x10 ga.

Let us have your inquiries.

### FOR SALE BY

**Mid-West Machine Tool & Supply Co.,**

**Davenport, Iowa**

Drill, 4 spindle Avey No. 2MT, p.f.  
Drill, ISS Garvin duplex, 24" cap.  
Grinder, 10"x36" Norton.  
Grinder, No. 10 B. & S. ext.  
Hobbers, Nos. 3, 12-B & C.

Lathe, No. 9 LeBlond multi-cut.  
Lathe, 18" Libby H. D., turret.  
Millers, Nos. 0-Y & 2 Brown & S.  
Radial drill, 4' American sensitive.  
Turret lathe, Nos. 2 & 6 Warner & S.

### FOR SALE BY

**Surplus Tool & Equipment Company**

**Cor. St. Clair & Washington,**

**Toledo, Ohio**

Lathe, Fitchburg 14x4 ch. dr., cheap.  
Miller, No. 32 Kempsmith.....\$166.  
Pipe machine, 2" Rogaco elec., mtr.  
Planer, 2'x6' Cincinnati.  
Presses, 61, 62 Bliss; 31, 32, 75 Tol.

Punch, 30 & 36" for boiler plate to 1/4".  
Radial drill, 5' Fostick, fine shape.  
Shear, Wickes rotary bevel.  
Taps, new Whitworth, cheap.  
We buy steel bar stocks.

### FOR SALE BY

**C. H. Waters Machinery Co.,**

**221 Harrison St., Elkhart, Ind.**

Grinder, Norton cylindrical 22"x96".  
Grinder, Landis cylindrical, 10x20".  
Grinder, No. 3 Brown & Sharpe  
cutter and reamer.  
Hammer, No. 3A High Speed.  
Lathe, 16"x8' Lodge & Shipley. q.  
c. g., taper attachment.

Lathe, 20x8' LeBlond, q. c. g.  
Miller & drill., No. 1 1/2 Knight vert.  
Press, No. 104 Bliss consol., m. d.  
Radial drill, 3' Fostick, s.p.d., mtr.  
Radial drill, 4' Western.  
Shapers, 16", 20" and 24".  
Many others.

### FOR SALE BY

**H. F. Wolnick Machinery Sales**

**Phone Lawndale 1777**

**21st & Marshall Blvd., Chicago**

Boring mills, up to 10'.  
Drill presses, 1, 2, 3-spindles.  
Lathe, 18x9 American.  
Lathe, 26x12 geared head, tap. att.  
Millers, plain, universal, vertical.

Planers, 24x24 to 48x48x12.  
Press, No. 4 1/2 K. & K., o. b. i.  
Press, No. 78 Toledo, geared m. d.  
Shapers, 16-30-24".  
Gear Hobbers, Shapers, Generators.

### FOR SALE BY

**J. P. Rentschler & Co.,**

**6722 N. Maplewood Ave., Chicago**

Milling mche., No. 3A B. & S. inv.  
Presses, several inclinable.  
Press, No. 2-W Bliss wiring.  
Presses, Nos. 201A, 203B Toledo d.c.  
Press, embossing, 500 ton cap.  
Presses, Nos. 21 & 24 Consol. horning  
Presses, Nos. 102 & 104 Cons., d. c.

Press, No. 74 1/2 x75 1/2 Bliss s. s., 8" str.  
Presses, Nos. P-1, P-3 & P-5 Ferra.  
Presses, Nos. 74 1/2 & 75 1/2 Bliss, s. s.  
Presses, No. 163 & 164 1/2 Toledo. tog.  
Press, No. DD-201 Ferracute toggle  
Press, No. 5C Bliss. double crank.  
Press, No. 14 1/2 Toledo horn., geared.



## USED AND REBUILT MACHINERY

### FOR SALE BY

#### Midwest Equipment Co.,

Air compressor, 9x8, I. R. compl.  
Air compressor 19x12x16, I. R. compl.  
Gear hob., No. 12, 3 B.-C., arbor, gra.  
Grinder, universal, B. & S., No. 2.  
Grinder, No. 6 Gardner, b. b., 26" discs.  
Grinder, Cinc. No. 1 tool & cutter.  
Hack saw, Napier, pwr., 10x10" cap.  
Hoists, 2-ton Shepard, electric, a. c.  
Lathe, 17x8 Sidney, l. c. g., complete.  
Lathe, 16x8 Hendy, q. c. g., tap, att.  
Lathe, 14x6 Sidney, quick ch. gear.  
Lathe, 32x16" Schumacher & B., q. c. g.  
Lathe, 34x10 Wolcott, q. c. g., comp.  
Lathes, Stark 4" & 3" cap. with col.  
Miller, No. 5 B. & S., plain.

Planers, Lathes, Screw Machines, Air Compressors, Woodworking Machines.

#### 628-30 W. Lake St., Chicago, Ill.

Miller, No. 1 Kempsmith pl., comp.  
Miller, No. 1 Rockford, plain.  
Miller, No. 2 Becker, vertical.  
Press, No. 78-C Niagara dbl. crank.  
Radial drill, 3" Cincinnati Bickford.  
Screw machines, No. 2 B. & S. automatic with slotting attachment.  
Screw machines, No. 4 Warner & Swasey.  
Screw mchs., Nos. 4 & 3 Foster, w. f.  
Shapers, 14", 16", 20" and 24".  
Shear, Quickwork, pwr. dri. 14 ga. cap.  
Shear, Beloit No. 52.  
Welder, arc. 300 amp. Wilson, m. d.  
Welder, spot, 27 kva, Taylor 440 v.

### FOR SALE BY

#### The Jones Machine Tool Co.,

Band saw, No. 8 Marvel, mtr. dr.  
Bolt cutter, 2" Landis (long bed).  
Bolt cutter, 1 1/2" Landis, single spdl.  
Bolt cutter, 1 1/2" Landis, dbl. spdl.  
Boring mill, No. 32 G. & L., s. p. dr.  
Drill, No. 14 Colburn heavy duty.  
Gear cutter, No. 13 B. & S., bevel & sp.  
Gear hobber, No. 12 Barber-Colman.  
Grinder, No. 1 Diamond surf. 12x24"  
Grinders, disc, various sizes.  
Hack saw, 9x9 Peerless.  
Keyseater, No. 1 Baker.  
Lathe, 27"x16" American grd. head.  
Lathes, shapers & planers, all sizes.  
Milling machine, No. 2 B. & S. univ.  
Milling mche., No. 3 LeBlond univ.

#### Front & Pike Sts., Cincinnati, Ohio

Radial drill, 5' Am. s. p. d., enc. hd.  
Radial drill, 6' Am. s. p. d., enc. hd.  
Rail drill, 10' Andrews 16-sp., 3" cap.  
Square shear, 10' 3/16" cap.  
Shear, 10' Poorman 14 gauge.  
Shear, 60" Yoder, rotary, 16 ga.  
Shear, 18" Southwark rotary, 7 ga.  
Shear, 37" Toledo 16 ga. 15" gap.  
Upsetters, 2" Ajax, belt drive.  
PRESSES  
No. 25 Niagara arch press.  
No. 92 B Toledo 38" dbl. crank, grd.  
No. 43 Robinson 46" dbl. crank, grd.  
3—No. 5 Toledo Inc. presses.  
No. 76 Toledo, b. g. gap press.  
50—o. b. inc. presses—various sizes.

We have a large stock—Send for new list.  
We Buy or Liquidate Complete Plants.

### FOR SALE BY

#### Brown Machinery Co.,

Broach, No. 1 LaPointe, sgl. spdl.  
Drills: 24", 26" and 32"; No. 66-D  
Moline 4-spindle Hole Hog.  
Drill, Allen B., single spindle, m. d.  
Drill, Demco b. b. m. d.  
Grinders: No. 6 Besly dbl. spindle;  
No. 220 Badger auto. disc; 12x30"  
Modern, plain, s. c. c. s.; No. 4  
Cincinnati, 14x72 cylindrical; P. & W. 36" vertical surface.  
Groover, power, 6' horn.  
Lathes, 30" Blaisdell, 28" Harrington  
gap. ext. bed; 26" Putnam, taper  
att., 18" & 16" Lodge & Shipley;  
16" & 14" Monarch; 7"x6" Lo-swing;  
No. 4 Wood Tilted Turret.  
Millers: No. 2 Hendey-Norton, univ.;  
No. 3 Fox; No. 4 Hendey Lincoln;

#### 2333 N. 9th St., St. Louis, Mo.

American No. 1 plain.  
Planer, 42x42x10 Pond.  
Press, No. 7 Zeh & Hahneman,  
Nos. 1, 3, 4 Lashbough-Jordan.  
Press, No. 4 Bliss, cona. comb. grd.  
Punch, Cleveland C in 4"; Rock  
River Style L in 4".  
Punch & shear, No. 9C Beloit, in 4".  
Punch & shear, L. & A. 4" cap.  
Riveter, No. 5A High Speed, 4".  
Shaper, 20" Ohio; 20" Queen City.  
Shaper, 20" Columbia; 24" G. & E.  
Shear, 62" underdriven, cap. 10 ga.  
Shear, 4" Lennox bevel.  
Threaders: 4" Geometric; National  
1 1/2" double head and single head.  
Upsetter, 3" Ajax, steel bed.  
Welder, 20 k. w. Agnew.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**J. L. Lucas & Son, Inc.,** - - - **3 Fox St., Bridgeport, Conn.**

#### ROLLING MILLS

2—16x34" Farrel Rolling Mills, complete with extra rolls, motor drive with reduction gears. Practically new.

One with extra reduction for breaking down, the other for finishing.

Will be sold for one-half price for quick sale. Write for full particulars.

### FOR SALE BY

**The E. L. Easley Machinery Co.**

**Telephone Lincoln 6320**

**831 Rees St., Chicago**

Drill, 4 spindle, Leland-Gifford.

Lathe, 16"x8" American, motor in leg

Lathes, 13" and 18" South Bend.

Miller, No. 2 BS, K. & T., pl. dbl o.a.

Miller, No. 3 Cincinnati Universal.

Planer, 30"x30"x8' Cleveland, O. S.

Planer, 52"x48"x12' Cleveland, 3 hds.

Press, No. 21½ Bliss, o. b. i.

Press, No. 102 Consolidated, dbl. cr.

Shears, 42" Stoll, 16 ga. cap.

Shears, 10' 3/16" cap. L. & A., m. d.

Welder, spot, 25 k. w. Federal.

### FOR SALE BY

**Geo. T. Reynolds & Son, Inc.,**

**171 Pine Street, Providence, R. I.**

Boring mill, No. 6 Defiance, horiz.

Grinder, No. 9 Diamond, disc.

Grinder, No. 2 B. & S., surface.

Lathe, 36"x35" Putnam, grd. hd., m. d.

Miller, No. 2 B. & S. pl., taper nose.

Millers, No. 3 B. & S. vertical, s. p.

d.: No. 4 Cincinnati, vert., s. p. d.

Wire drawer, 9 die Farrel Fdy. cont.

Presses, No. 63; No. 65; No. 66 Bliss

Consolidated, s. s., geared.

Screw machines, No. 0; No. 0G;

No. 2 Brown & Sharpe automatic.

Shapers, 15" Potter & Johnston;

24" Stockbridge.

Swedging machines, No. 2; No. 3;

No. 3½; No. 4 Langelier.

### FOR SALE BY

**Brownell Machinery Co.,**

**150 Pine St., Providence, R. I.**

Cam cutter, Pratt & Whitney.

Drill, 4' American, radial.

Grinder, No. 2 Morse universal.

Grinder, No. 9 Diamond disc.

Hack saw, 9"x9" Peerless, h. s.

Hammer, 125 lbs. Beaudry forging.

Lathe, 13"x4' South Bend.

Lathe, 27"x27" S. & B.

Miller, No. 4 Cincinnati vertical.

Planer, 17"x17"x4' Whitcomb.

Press, No. 701 Bliss flat edge trimmer

Rolling mill, 12"x20" Standard.

Shaper, 15" Kelly.

Swaging machine, No. 4 Dayton

(Torrington).

Screw machines, No. 4 Brown &

Sharpe, wire feed.

Screw machine, No. 4 B. & S., g.f.h.

### FOR SALE BY

**The O'Brien Machinery Co.,**

**113 N. Third St., Philadelphia, Pa.**

Angle flaring, Thomas, 8"x8" cap.

Bending rolls, 10' Bertsch, ½" cap.

Boring mill, 72" Bullard vert. 2 hds.

Boring mill, 78" Johnson horiz.

Column facer, 14" Espen-Lucas.

Drill, Minster heavy duty 2½" cap.

Grinder, 10"x52" Landis, self con-

tained, plain.

Hack saw, 6"x6" Racine & Peerless.

Hammer, 800 lb. Erie, steam forging.

Lathe, 38"-60"x32" McCabe 2 in 1.

Lathe, 42"x28" Fay & Scott b. dr.

Lysholm table, 50"x4' complete.

Miller, No. 3 Becker universal,

range 30"x10"x18"

Miller, No. 3 B. & S., pl., s. p. dr.

Pipe machines, 2, 4, 6, 8 and 12"

belt and motor drive.

Punch, beam, type 1G Clev., 24" bms.

Punch, No. 3 Southwark 4x1", mtr.

Shapers, 14, 16, 20 & 24" various makes

Shear, No. 5 H. & J. s. c., 24" blades.

Slotter, 12" Dill, belt drive, all

power feeds.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Herben Machinery Equipment Co., 28-30 S. Clinton St., Chicago, Ill.**

Brake, 3', 16 ga. D. & K.  
Drills, 3-sp. Sipp. 6-sp. H. & W.  
Lift, 10' Economy, practically new.  
Millers, Wisc. hand, vertical head;  
No. 1 Kempsmith, No. 3 B. & S.

Shears, 30" 36" 62" footpower, 36",  
16 ga., 15' gap, \$65.  
Screw machines, No. 52 Acme, 00  
B. & S. auto., 1" Millholland hand.  
Screw machine parts and collets.

### FOR SALE BY

**Reliance Machinery Sales Company**

**1405 Brighton Road, N. S.**

**Pittsburgh, Pa.**

Bulldozers, Nos. 3 and 9 W.-W.  
Drill, 4 spindle No. 4 Colburn Mfg.  
Drill, radial, 24' Mueller, s. p. d.  
Drill, 6' Cincinnati-Bickford, radial.  
Hammer, 100 lb. Beaudry upright.  
Lathe, 48"x20' Betts-Bridge, m. d.  
Press, No. 14 Bliss toggle, 80,000 lb.  
Press, No. 594 Toledo, 145,000 lb.  
Press, No. 39 Bliss horn, adj. table.  
Press, No. 754 Bliss, tie rod, 6" str.  
Press, Perkins dbl. crk., 24" bet. up.

Seamer, No. 3 Swaine, double.  
Shaper, 16" Whipp, b. g., vee ram.  
Shapers, 24" & 32" G. & E. 230 v. d. c  
Shaper, 24" G. & H. Hi-duty, s. p. d.  
Shear, throatless, 1", m. d.  
Shear, 11' Canton squaring, 18 ga.  
Shear, 8' Bertsch, 10 gauge.  
Shear, Niagara 10"x10 ga., 12" gap.  
Shear, alligator 3" sq. Canton, with  
power roller table, motor drive.  
Write us about your needs.

### FOR SALE BY

**F. A. Schack, Trustee-in-Bankruptcy**

**Fort Wayne National Bank,**

**Fort Wayne, Ind.**

Boring mill, No. 2 Barrett, horizontal, 5" bar.....	\$ 225.
Crane, 20-ton J. & J., E. O. T., 40' span, 4 motor.....	850.
Drill, 6' Baush, radial, b. d.....	100.
Gear planer, 96" Gleason, spur and internal, m. d.....	550.
Hammer, 1500 lb. Morgan, single frame, steam or air.....	200.
Planer, 48"x48"x16' Niles, 2 heads.....	275.
Planer, 72"x72"x24' Niles, 4 heads.....	900.
Planer, 96"x48"x12' Pond, 4 heads.....	450.
Planer, 14' G. & W. boiler plate, full length clamp.....	100.
Punch, G. & W., 1-1/16" through 1/2" stock, 30" throat.....	90.
Shear, 12" G. & W., 30" throat.....	80.
Slotter, 12" Freeland, b. d.....	70.
Pratt & Whitney Plug & Ring Gauges, 1/2" to 3" incl.....	75.

### FOR SALE BY

**McDonald Machinery Co.,**

**1535 N. Broadway, St. Louis, Mo**

Bolt mchs., Landis & Acme 1 1/2".  
Boring mill, Lucas No. 21 horizontal.  
Brake, D. & K. 6' 10 ga., pwr. leaf.  
Brake, Ohl 8' 10 ga. power press.  
Drills, Cin-Bickford 3' & 3 1/2' radials.  
Drill, Sipp 4-sp., h. s., b. b. pwr. fd.  
Gear hobber, G. & E. 24" & 60".  
Grinders, B. & S. No. 2 surf. & univ.  
Grinders, Person-Arter 16" rot. surf.  
Ironworkers, Buffalo No. 0 univ.  
Keyseaters, M. & M. No. 2.  
Lathes, F. & M. 60"x26" bed; LeBlond  
21"x18", q. c. g.; 50 others in stock.  
Milling machines, B. & S. No. 5, vert.  
Milling mchs., B. & S. No. 1 1/2 Cinc.  
No. 1 1/2, Hendey No. 1-B, Kemp.

No. 3; Ohio No. 29; vertical slott.  
attach., all universal; Kemp. No. 1,  
LeBlond No. 3-H.; Brown & S.  
No. 3-B, s. p. d., Brown & Sharpe  
No. 3, all plain, Cincinnati 12"  
Mfg.; Cin. No. 2 s. p. d. hi-duty pl.  
Punch press, d. c. grd., 79" between  
uprights, 5" stroke, wt. 38,000 lbs.  
Screw machines, Foster No. 5, gr. hd.  
Shapers, G. & E. S. & M., Cin., Ohio,  
American, Steptoe, Queen City,  
12", 16", 18", 20", 24" and 36".  
Square shears, Bertsch 10' 16-ga.  
Turret lathes, W. & S. No. 2A univ.  
Turret lathes, Libby 18" geared  
head universal, Gisholt univ.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**W. J. Meschberger Elevator and Repair Co., Inc.**  
820 Forest Avenue Fort Wayne, Indiana

#### MOTORS

1-30 h. h., 450 r. p. m., 3 phase, 220 v., 60 cy., newly wound, with rails and starter.....	\$275.
1-75 h. p., 900 r. p. m., newly wound, 220 or 440 bare motor.....	275.
1-15 h. p., 600 r. p. m., newly wound, 220 or 440.....	95.
5-1 h. p., 3-phase, 1200 r. p. m., 220 or 440 bare motors, each.....	30.

### FOR SALE BY

**The W. M. Pattison Supply Co., 777 Rockwell Ave., Cleveland O.**

Arbor press, No. 17 Greenard, 90% new.  
Chaser grinder, Geometric Tool Co., rebuilt.  
Grinder, No. 8, 26"-30" Badger disc, Universal lever feed tables.  
Lathe, 16"x6' Hendey cone, tie bar hd., oil pan, c. r., taper attach., rebuilt.  
Lathe, 16"x8' Hendey cone, tie bar head, c. r., taper attachment, rebuilt.  
Miller, No. 5 Hendey duplex, Lincoln, oil pump, p. f. to table, 44"x9 1/2" table working surface, 90% new.

Our list of used tools gladly mailed upon request.

### FOR SALE BY

**The Elyria Belting & Machinery Co., Elyria, Ohio**  
Corner Williams and Buckeye Streets,

Air compressors, Ingersoll-Rand, class ER 1, 9x5, 173 cu. ft; 12x10, 368 cu. ft.  
Boiler, Leffel, 15 lb. pressure.  
Crane, overhead, Milwaukee 2-ton electric, 37' span, cab-operated.  
Press, No. 55 Toledo, s. s., 16" stroke, double back geared.  
Squaring shear, 8' Toledo, capacity 3/4".  
Squaring shear, 10' Cleveland, capacity 3/4".  
30,000 ft. of 2" black water pipe, 8 cents per ft., long lengths and threaded.

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## GRINDERS

No. 12 B. & S. Univ. Cyl., C. S. D.  
Metz Surface, 6x13, Magnetic Chuck.  
8" Heald Surface, Rotary.  
No. 85 Heald Bore.  
No. 2 Brown & Sharpe Surface.  
No. 13 Brown & Sharpe.

## PRESSES

No. 5½ B. G. Walsh Yoke, 3½"  
Stroke, 30" 28 Bolster, Nearly New.  
Z. & H. Dbl. Cr., B. G., 3½" Stroke,  
32x32, 2 Bolsters, Nearly New.  
No. 2 R. & K., O. B. I.  
No. 5½ Walsh, O. B. I., 3½" Stroke.  
No. 16 Bliss Horning, 1½" Stroke.  
No. 4 Loshbough-J., O. B. I., 3" Str.  
No. 5 R. & K., B. G., Arch, 5" Str.  
No. 4½ Niagara.  
No. 5 Toledo.  
No. 2½ B. & O. Open Back Incl. Incline  
No. 12 Toledo Horning.  
No. 5-A Toledo.  
No. 00 Toledo.  
No. 4 Toledo Punch.  
No. 5½ I. Cleveland.  
No. 3 Minster.  
No. 2½ V. & O. Open Back Incl.

## BORING MILLS

Beaman & Smith, 3½" Bar, 36x48  
Table, 6' Bed, S. P. D.  
36" Bullard, S. P. D.

## MILLING MACHINES

No. 2½ R. ckford, C. S. D.  
No. 2A Milwaukee Pl. S. O. A., spd.  
No. 2 Cincinnati Plain.  
No. 2-A Brown & Sharpe Universal.  
No. 0 Steptoe Mill.  
No. 1 Brown & Sharpe Mill.  
No. 1 Standard Mill.  
No. ½ Van Norman Duplex Mill.  
Bristol Hand Mill.

## PLANERS

36 widened x12', Whitcomb, 2 heads.  
26x26x8 American, 1 head.

## VERTICAL MILLING MACHINES

No. 5 Becker, C. S. D.  
No. 3 Becker, C. S. D.

## LATHES

16x8 Rahn, Q. C.  
12x5 Davis Pain, 4 step Cone.  
14x5 Reed Plain, 4 step Cone.  
17" LeBlond Lathe.

## BROACHES

No. 1 LaPointe.  
No. 2 LaPointe.

## SHAPERS

24" B. & E., C. S. D.  
13"x15" Smith & M., O. B., C.S.D.  
16" Ohio B. G., C. S. D.

## SCREW MACHINES AND TURRET LATHES

No. 6 Foster 3, C. S. D.  
Bardona & Oliver 4" Cap., C. S. D.  
No. 0 Foster, C. S. D.  
No. 1 Foster, C. S. D.  
Nos. 1 & 2 Woods Tilted, C. S. D.  
No. 0 Brown & Sharpe Hand.  
No. 00 Brown & Sharpe Automatic.  
No. 4 Warner & Swasey, Plain.  
No. 0B. & S. Automatic.

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American Radial Drill Press.  
20" Barnes.  
20" Canedy B. G., P. F.  
2-Spindle Avy Drills.  
2-Spindle Leland Drill.  
3" American Sensitive Radial.  
No. 2 Allen 4-spindle high speed.  
No. 3 Henry & Wright Drill.

## MISCELLANEOUS

Oliver Speed Lathe, Comp. Sl.  
Keller Flex, Portable Grinder.  
Landis ¼" Cap. Bolt Threader.  
Motors, Hanger, Pulleys, Belting.  
Cutters, Drills, Taps, Reamers.  
48" Brake.  
42" Power Shear.  
No. 16-P Throatless Shear.  
1" Hardinge Bench Lathe.  
¾" Elgin Bench Lathe.  
¾" Elgin Bench Lathe.  
18" Gould & Eberhardt Hobber.  
26" Bliss Shear.  
No. 9 Canedy Otto Arbor Press.  
Brinnell Hardness Testers.

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## JIG BORER

No. 2 PRATT & WHITNEY.

## BORING MCHES. (Hor.)

No. 0 GIDDINGS & L., 3" bar.

No. 3-A UNIVERSAL, 3" bar.

No. 3 HAMILTON, 4" bar.

5" bar, N. B. P. Floor Type.

## BORING MILLS (Vert.)

32", 42" KING, M. D.

36", 42" BULLARD "New Era"

61" BULLARD MAXI-MILL.

10' NILES, belt drive.

## DRILLS (b. b.)

1, 2, 3, 4, 6 spdl. LELAND-GIF.

1 & 4 spindle ALLEN.

2, 4, 6 spdl. HENRY & WRIGHT.

## DRILLS (Mfg.)

24" CINN., Slid. Hd., b. g.

36" Baker, H. D.

Nos. 2 & 14 COLBURN, 1, 2, 4 sp.

Nos. 121 & 217 BAKER, M. D.

## DRILLS (Radial)

3' AMER. MAXI-SPEED Sen.

3', 3 1/2', 4' WESTERN.

5' AMERICAN, triple purpose.

6' AMERICAN, full universal.

## GEAR CUTTERS

Nos. 3 & 12 BARBER-COL.

Nos. 9-H & 18-H G & E. Hob.

Nos. 6, 65, 61, 612 FELLOWS.

Nos. 7, 75, 715, 615 FELLOWS.

6" & 18" GLEASON Bevel Gear.

## GRINDERS (Plain)

6"x32" NORTON, M. D.

Nos. 10, 11 12 BROWN & S.

10"x24", 36" 50" NORTON.

10"x72", 10"x96" NORTON.

10"x20", 36", 52" LANDIS.

14"x36", 14"x72" NORTON.

18"x96" NORTON, M. D.

20"x120" LANDIS, M. D.

26"x96" LANDIS, M. D.

## GRINDERS (Univ.)

Nos. 13, 1, 2 BROWN & S.

No. 2 & No. 24 BATH UNIV.

## GRINDERS (Misc.)

Nos. 60 & 70 HEALD Internal

8" ARTER Rotary Surface.

14"x36" PRATT & W. Surface.

## LATHES (Screw Cutting)

12", 14" x6" L. & S. Sel. Grd. Hd.

13" x6" LeBLOND, S. P. D.

16"-18" x6" AMERICAN, rel. att.

16"-18" x8", 10" L. & S. Sel. G. H.

18"-20" x8" AMERICAN G. H.

20"-22" x8", 12" L. & S. Sel. G. H.

24"-27" x12", 18" L. & S. Sel. G. H.

36"-40" x14", 2" L. & S. Sel. G. H.

66"x21", 36" PUTNAM T.G., M. D.

## MILLERS (Thread)

4 1/2"x12" PRATT & WHITNEY.

6"x14", 6"x48", PRATT & W.

6"x89" PRATT & WHITNEY.

## MILLERS (Plain)

Nos. 0, 1, 2, 3-H, 4-B, 5-B, B. & S.

No. 1-B MILWAUKEE, mtr. dr.

No. 2 B MILWAUKEE, Tim. b.

No. 2-M CINCINNATI, S. P. D.

Nos. 2 & 3 CINN. H. P., S. P. D.

No. 3-B MILWAUKEE, S. P. D.

Nos. 4 & 5 CINN. H. P., S. P. D.

## MILLERS (Univ.)

No. 14 ROCKFORD.

No. 1-B MILWAUKEE, S. P. D.

No. 2 OHIO.

No. 2 BROWN & SHARPE.

No. 2-M CINCINNATI.

Nos. 2, 3, 4 CINN. H. P., S. P. D.

## MILLERS (Vert.)

No. 2 M CINCINNATI.

No. 2, No. 4 CINN. H. P., M. D.

No. 5 BROWN & SHARPE.

No. 3 CINN. H. P., motor-in-base.

No. 4 CINN. H. P. inter. fds.

## MILLERS (Mfg.)

12" CINCINNATI, Plain.

24" CINN. Duplex, S. P. D.

No. 33-36" KEMP SMITH, M. D.

24"x24"x12" INGERSOLL Slab.

## PLANERS

24"x24"x6" ROCKFORD.

24"x24"x12" GRAY.

36"x36"x10" GRAY, rev. m. d.

36"x36"x18" CINCINNATI.

36"x36"x24" & 48"x48"x10" GRAY.

48"x48"x18" PUTNAM.

56"x56"x32" CINCINNATI.

72"x72"x12" CINCINNATI.

## PRESSES

No. 20 BLISS.

No. 3 & No. 4 ROCKFORD.

No. 5 A TOLEDO.

No. 63 CONSOLIDATED, S. S.

No. 303 BLISS, S. S.

No. 203-32" TOLEDO.

No. 30-32" CLEVELAND.

No. 173-A CONSOLIDATED.

No. 54 1/2-55" HAMILTON.

H. & W. 50-ton Dieing Machine.

## SHAPERS

20" STOCKBRIDGE, M. D.

24" GOULD & EBERH'T, s.p.d.

24" CIN., Climax, s.p.d. auto. lub.

28" COLUMBIA, s.p.d.

## TURRET LATHES

14"x18" CINN.-ACME, Screw.

No. 4-1-9/16" B. & S. Screw.

Nos. 1A & 2A W. & S. Univ. Tur.

Nos. 3A & 4A W. & S. Univ. Tur.

18"-3-9/16" LIBBY, motor drive.

28"-7 1/2" LIBBY, Inter Turret.

No. 4-1, 9 1/2" GISHOLT Turret.

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# High Grade Machine Tools

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28"x48" Harrington, Sliding Bed.  
 32"x12" B & E, 3 S. C. D., D. B. G.  
 20"x10" American Grd. Hd., S. P. D.  
 24"x22" Bradford, Q. C., 3 S. C. D.  
 36"x16" Lodge & S. Sel. Grd. Hd.  
 30"x10" L. & S. Patent Head.  
 30"x14" L. & S., 3 S. C. D., D. B. G.  
 24"x12" L. & S. Patent Grd. H. S. P. D.  
 21"x10" LeBlond, Geared Head.  
 20"x16" American, Geared Head.  
 21"x10" LeBlond Geared Head.  
 24"x10" LeBlond Geared Head.  
 20"x8" Am. Grd. Hd., M. D., late t.  
 20-30"x7" Monarch Helical G. H. Gap

## Grinders

16"x72" Landis Plain, Self Cont.  
 16"x48" Landis Crankshaft.  
 No. 4A Landis Special, Auto. Crank.  
 16"x48" & 72" Landis Crankshaft.  
 16"x72" Plain Landis.  
 Type A Production Abrasive Finishing  
 Nos. 50, 55, 60, 65 and 70 Heads.  
 6"x18" Landis Plain, Self Contained.  
 10"x52" Landis Plain, Self Con.  
 Rivett Internal Grinder.  
 No. 2 Brown & Sharpe Surface.  
 Nos. 1 1/2 Cincinnati Tool & Cutter.

## Gear Cutters

No. 1 Brown & Sharpe Gear Tester.  
 No. 615 Fellows.  
 36BM Gould & E. Gear Rougher.  
 No. 3, 26" Brown & S. Gear Cutter.  
 No. 4, 48" Brown & Sharpe.  
 Nos. 1, 2, 4 Adams Farwell Gear Hb.  
 18-H Gould & Eberhardt Hobber.  
 24H G. & E. Hobber.  
 6", 11", 18" Gleason Gear Generators.

## Bolt and Pipe Threaders

1/2" Landis Double-Spindle.  
 1 1/2" Landis Sgl.-Sp. Grd. Hd. m. d.  
 1" Acme Class "A" Single-Spindle.  
 1 1/2" Acme Model A.  
 2" Landis Sgl.-Sp., lead screw attach.  
 2" Landis Double-Spindle.  
 18" Landis Pipe Threader.

## Boring Mills

24"; 36" and 42" Bullard "New Era"  
 A. C. motor drive.  
 60" Niles Boring Mill, 2 heads.  
 No. 32 Ciddings & Lewis Horiz.

## Milling Machines

No. 5 Cincinnati High Power, Rect-  
 angular Overarm.

No. 4 Cincinnati Pl. Hi-Pwr., S. P. D.  
 No. 4 Cincinnati H. P. Pl., S. P. D.  
 No. 3 Cincinnati Pl. Hi-Pwr., S. P. D.  
 No. 3-B Milwaukee Pl., Dbl. O. A.  
 Nos. 3; 5-B; 6 Becker Vertical.  
 No. 2A Brown & S. Univ., S. P. D.  
 No. 3 Cincinnati Vert. H. P., S. P. D.  
 Nos. 2 and 3 Cincinnati High Power  
 Plain, S. P. D. flange nose.  
 No. 2 Cin. H. P. Rect. O. A. m-i-b.  
 No. 2 Cincinnati Universal H. P.  
 flange nose: S. P. D.  
 5" Pratt & Whitney Automatic.  
 18" Cincinnati Plain Mfg. Miller.  
 Briggs Manufacturing Miller.  
 No. 7-H Becker Lincoln type.  
 No. 1 Knight Miller and Driller.  
 6x48 Pratt & Whitney Thread Miller.  
 4 1/2x12 Pratt & Whitney Thread Miller.  
 No. 3 & 3-E Lees-B. Thread Millers.

## Planers

24"x24"x8" Gray Planer.  
 30"x24"x11" Detrick & H. Openside.  
 36"x36"x10" Gray, 2 heads.

## Radial and Upright Drills

2 1/4" Cinti-Bickford Radial, S. P. D.  
 2 1/2, 3, 3 1/2, 6" Cinci.-Bick. S. P. D.  
 3 3/4, 4 American Trip. Pur. S. P. D.  
 3" Bickford Plain, S. P. D.  
 4" Cinti.-Bickford Univ., S. P. D.  
 6" American Triple Purpose, S. P. D.  
 No. 2 Colburn Mfg. H. D. 2-spindle.  
 6-spindle Rockford 20" B. G. P. F.  
 No. 40 Natco Straight Line Multi.

## Shapers

16", 20", 24" G. & E., mtr. dr. thru g. b.  
 16", 20" and 24" G. & E., cone drive.  
 20" Seiptoe, S. P. D.  
 24" Potter-Johnson M. D. thru gear box

## Miscellaneous

No. 3-B LaPointe Broaching Mche.  
 80lb. Bradley Cushion Helve Hammer  
 High Speed Riveting Hammers.  
 Nos. 1 & 3 Baker Keyseater Mches.  
 No. 2 Mitts & Merrill Keyseater.  
 Nos. 1 & 2 Davis Keyseaters.  
 V-18 Amer. Vert. Broaching Mche.  
 15, 30 & 50 Ton Lucas Forcing Pr.  
 56 Adriance Geared Press.  
 No. 50 Toledo Arch Press, 10" stroke.  
 No. 2 L. & A. Punch & Shear, M. D.  
 No. 1 & 2-X Garvin Tapping Mches.  
 No. 4 W. & S. Univ. Turret Lathe.

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# Guaranteed Machine Tools

## Bargains with Safety

### Boring Mills

14'-20' Niles Vertical, Belt.  
42" Bullard New Era, M. D.  
44"-36" Niles Vertical, M. D.  
42" Gisholt Vertical, M. D.  
60" Colburn Vertical, M. D.  
Lucas Horizontal, 3" bar.

### Brakes

8' x 10 Gauge Geo. Ohl, Motor Dr.  
10' x 12 ga. Geo. Ohl.  
10' x 10 ga. Loy & Mawrath.

### Drills

5' Drees Radial, Motor Drive.  
5' N. B. P. Radial, Semi-Univ.  
6' Cincinnati Bickford Radial.  
1 spindle Sipp, High Speed.

### Gear Cutters, Etc.

No. 13 B. & S. Heavy NEW (2).  
No. 13 B. & S. Light.

### Grinders

No. 2 Diamond, Belt.  
No. 13 B. & S. Univ. & Tool, Belt.  
No. 20 Heald Rot. Surfer, S. P.  
16' x 48" Landia Crankshaft.  
No. 70 Heald Internal, Belt.  
No. 75 Heald Internal, Belt.

### Lathes

12' x 5' Cleveland, Gd. Hd., (11)  
14' x 6' Cisco, Q. C. G. Belt.  
16' x 6' Lodge & S. Geared Head.  
18' x 10' American, Grd. Hd. (2).  
33' x 12' Lodge & Shipley Cone.  
36' x 22' New Haven, Q. C. G. Hvy.  
46' x 28' Houston S. & G., G.H. (2)  
60' x 50' Pond, Cone.

### Milling Machines

No. 2B Milwaukee Univ. S. P.  
No. 3B Milwaukee Univ. S. P.  
No. 3 Cincinnati, Uni. Cone, (2).  
No. 3 Cincinnati, Plain, M. D. (2).  
No. 2 1/2 B Milwaukee Vert. S. P.  
No. 4 Cincinnati Vert., S. P. Late.  
No. 5C Becker Vertical, Cone.  
24" Cincinnati Duplex.  
No. 2 Garvin Duplex.  
No. 2 Knight Vert. Milling & Drill.  
No. 20 Ohio Universal Cone.

### Presses

No. 6 Toledo, Flywheel.  
No. 8 Perkins Knuckle-Joint Em-  
bossing 250 ton capacity, (2).  
No. 5A Toledo, Geared (2).  
No. 5A Toledo, Flywheel M.D. (2).  
No. 6 Toledo Geared (4).  
No. 203-D Toledo, Double Crank.  
No. 5 V. & O.

### Rolls

30' x 3/4" H. & J. Bending.  
48' x 3/8" Niles Straightening.

### Shears

6' x 10 gauge Bertsch, M. D.  
8' x 1/4" Geo. Ohl M. D.  
10' x 10 ga. Geo. Ohl.  
10' x 3/16" Geo. Ohl, M. D.  
12' x 1/4" Covington, 20" gap.  
13' x 14 ga. Geo. Ohl, Belt.  
No. 6 Quickwork Rot., 1" cap.  
72' x 5/8" L. & A. Gap Shear.  
No. 16 Sonntag Comb. Punch & S.  
6' x 6' x 3/4" Cleveland Angle Shear.  
Ryerson Friction Saw.  
No. 3 Quickwork Rot. 1/4" cap.  
No. 3A Royersford D. E. Punch &  
Shear, Motor Drive, NEW.  
Yoder Rotary 36" Throat. 3/16".

### Turret Lathes

No. 1B Foster Motor Dr., Grd. Hd.  
No. 4 W. & S. Universal Belt.  
No. 2 W. & S. Fox Monitor.

### Miscellaneous

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Hayes Elec. Furnace.  
1 1/2" Ajax Upsetter & Forger.  
10" Dill Slotter.  
16' H. & J. Plate Planer.  
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Landis:—6"x18", 10"x24", 10"x26"  
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Cincinnati:—12"x18" & 12"x36".  
Modern:—8"x18", 12"x24" & 12"x60".  
Brown & Sharpe:—10"x48", No. 14,  
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Fitchburg:—8"x20".  
No. 2 Brown & Sharpe surface.  
No. 78 Wilmarth & Morman surf.  
16", No. 10 Blanchard surface.  
30", No. 16 Blanchard surface.  
8"x30", No. 3 Walker surface.  
14" Pratt & Whitney surface.  
12" x 78" Reed Prentice surface.  
12", 18", 24" & 36" Gardner disc.  
30" Bealy disc.  
53" Gardner No. 24 disc.  
53" Bealey No. 19 disc.  
53" Bealey No. 49 disc, m. d.  
1 1/2" Oliver drill.

24" Wilmarth & Morman drill.  
24" Grand Rapids drill.  
6" Black & Decker drill.  
Nos. 70, 72 & 75 Heald internal.  
No. 50 Heald cylinder.  
16"x48" Landis crank.  
Wisconsin Tool & Cutter.  
No. 1 Bath universal.  
No. 3 Ohio Univ. Tool & Cutter.  
20" Blount wet tool.  
No. 1 Universal gage.  
30"x84" Diamond face.  
Pratt & Whitney worm grinder.  
No. 20 Bath spline.  
Gisholt tool grinder.  
24" Ingersoll cutter.  
Blevney belt grinder.  
Type S Production belt.  
14" & 16" double pedestal.  
16", 20" & 24" Norton snagging.  
24" U. S. Electric snagging.  
30" Ransom Electric snagging.

## PRESSES

No. 3 Toledo O. B. I.  
No. 3 Bauroth O. B. I.  
No. 3 Moore O. B. I.  
No. 3 Consolidated comb. geared.  
No. 5 Toledo O. B. I. geared.  
No. 8N American Can geared.  
No. 6 Adriance O. B. I.  
Nos. 64, 65 & 67 Consolidated.  
No. 744 Bliss straight side.  
No. 8-7 Zeh & Hahnemann S. S.  
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250 ton No. 503 Consolidated coining.

800 ton No. 26K Bliss coining.  
31" Bliss double crank.  
48", Toledo No. 924C double crank.  
82" Ferracut S154 double crank.  
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No. DDG 55 Ferracut drawing.  
No. 266 Consolidated drawing.  
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No. 22 Consolidated horning.  
25 ton Henry & Wright dieing.  
No. 94 Consolidated punching.  
No. P3 Ferracut punching.  
No. C82 Ferracut notching.

## SHAPERS

15" & 24" Potter & Johnston.  
14" Davis.  
16" Ohio.  
16" Smith & Mills, s. p. d.  
16" Kelly.  
16" & 20" Milwaukee.  
20" Steptoe.

20" & 24" Gould & Eberhardt.  
20" Hendy friction.  
24" American, single spindle drive.  
26" Lynd Farquhar openside.  
28" Columbia.  
32" Walcott.

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- 19"x12' Reed-Prentice Lathe, geared head, s. p. d.
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- 14" four spindle Gridley Automatic.
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 No. 4G Millholland Turret, m. d.  
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 2 spindle 3 x 36 Jones & Lamson, m. d.  
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 20", 24" Cincinnati, cone.  
 20" Kelly, cone.  
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 20", 25" Wallcott, cone.  
 24", 28" Gould & Eberhardt, cone.  
 24" Gould & Eberhardt, s. p. d.  
 28" Ohio, cone.

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 16" x 6" Lodge & Shipley, taper.  
 18" x 8" American.  
 20" x 8" American.  
 20" x 10" American.  
 22" x 14" Lodge & Shipley, taper.  
 24" x 14" Lodge & Shipley, taper.  
 23" x 10" LeBlond, taper.  
 27" x 16" American, taper.  
 30" x 12" American.  
 36" x 14" American.  
 36" x 18" American, taper.  
 36" x 40" American, taper.  
 24" x 24" Boye & Emmes Coneless.

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- 14" x 6" Lodge & Shipley.  
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 16" x 8" Lodge & Shipley.  
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 16" x 32" x 8" Putnam, gap.  
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 18" x 8" Greaves-Klusman.  
 21" x 10" LeBlond, taper.  
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 24" x 10" Greaves-Klusman.  
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 26" x 24" Niles.

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 No. 2, 3, 4 Cincinnati Plain, cone.  
 No. 2 Kempnith Maxi-Mill, m-i-b.  
 No. 3A Heavy, B. & S. Univ., m. d.  
 No. 1, 3 Kempnith Universal, cone.  
 No. 2A Hendey Universal, s. p. d.  
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 36" x 144" Norton Roll, m. d., latest.  
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 No. 70 Heald Internal, clutch head.  
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 10 x 36", 10 x 50", 16 x 36" Norton, m. d.  
 6 x 18", 10 x 36", 12 x 52", 16 x 52" Landis Plain Cylindrical, arr. m. d.  
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 No. 1 1/2 Cinti. Univ. Tool & Cutter.  
 No. 2, 3, 4 Brown & S. Univ., belt.  
 No. 4 Landis Universal, belt.

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 No. 6, 61, 612, 615 Fellows.  
 No. 7, 715 Fellows High Speed.  
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 6, 11, 18" Gleason Bevel.  
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 Upright Drills, all sizes and makes.  
 2 1/2", 3", 3 1/2", 4", 5" 6" Amer. Tri. Pur.  
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120"x96"x20' Cincinnati 4 Head Planer. Forced Feed Lubrication.  
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Am. turret; No. 4 W. & S. Univ.  
Millers, Vert. 5-B Becker; Universal  
No. 3-A B. & S. M. D.  
Nibblers, No. 1 Gray  $\frac{3}{16}$ "; No. 2  
Gray  $\frac{3}{8}$ "; No. 1-A Campbell.  
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No. 4 & 5 Am. Can., No. 6 Toledo  
Back Geared 6" str., No. 4 Bliss.  
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Shears Power 8" 10 ga. Stoll 20" Gap,  
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- 2—No. 95-H Toledo
- 7—No. 95-F Toledo
- 7—No. 95-E Toledo
- 19—No. 94½ -E Toledo
- 1—No. 94½ Toledo.
- 1—No. 94-I Toledo
- 1—No. 94 H Toledo.
- 2—No. 94-E Toledo
- 1—No. 94-D Toledo
- 1—No. 94-C Toledo
- 1—154-C Cleveland
- 1—No. 545½ Hamilton

## COINING

- 1—No. E-52 Ferracute
- 1—No. 660 Toledo
- 1—No. EG-3 Ferracute
- 1—No. 669 Toledo
- 3—No. 665 Toledo
- 4—No. 663 Toledo

- 1—SG-71 Ferracute
- 2—No. 92-B Toledo
- 1—No. 424½ Hamilton
- 1—No. 3-D Bliss
- 1—No. 3-C Bliss
- 1—No. 4 Walsh
- 2—No. 91-D Toledo
- 1—No. 204 J Toledo
- 1—No. 205-B Toledo
- 1—No. 60-4½-36 Minster
- 1—No. 203-D Toledo
- 2—No. 23-A Bliss
- 1—No. 201-E Toledo
- 2—No. 203-B Toledo
- 1—No. 201-A Toledo
- 1—No. 202-E Toledo
- 2—No. 60-2½-24 Minster

## HORNING

- 3—No. 14¾ Toledo
- 46—No. 14 Toledo
- 3—No. 13 Toledo
- 5—No. 12 Toledo

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- 2—No. 3110¼ Hamilton
- 1—No. 80½ Bliss
- 3—No. 78½ Bliss
- 1—No. 60¼ Toledo
- 1—No. 59-S Toledo
- 2—No. 59½ Toledo
- 2—No. 59 Toledo
- 1—No. 59 Toledo
- 5—No. 58½ Toledo
- 2—No. 58 Toledo
- 4—No. 57 Toledo
- 4—No. 57-A Toledo
- 16—No. 56 Toledo
- 1—No. 55½ Toledo
- 1—No. DG-57 Ferracute

## INCLINABLE

- 6—No. 4 Toledo
- 37—No. 5-A Toledo
- 10—No. 6 Toledo

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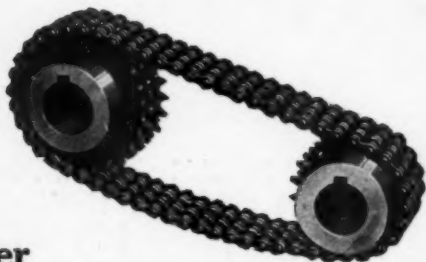
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